Supreme Court, U.S.
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No. ____

In the Supreme Court of the United States

TI GROUP AUTOMOTIVE SYSTEMS (NORTH AMERICA), INC.
(now known as TI Group Automotive Systems, L.L.C.)
Petitioner,

v.

VDO NORTH AMERICA L.L.C., MANNESMANN VDO AG, SIEMENS VDO AUTOMOTIVE CORP., and SIEMENS VDO AUTOMOTIVE AG,
Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITION FOR WRIT OF CERTIORARI

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QUESTIONS PRESENTED

As this Court decided in *Markman*, patent claim construction is a matter of law for the courts, and patent infringement ~~is a~~ question of fact subject to the Seventh Amendment right to a jury trial. Since *Markman,* the Court of Appeals for the Federal Circuit has been reversing district court decisions on patent claim construction frequently. This has resulted in an increased number of jury verdicts rendered with erroneous claim constructions, and it raises the important and recurring issue of whether the trial court must revisit the infringement question with the correct claim construction. The Federal Circuit has responded by granting itself the power to decide the new infringement issues on appeal and to foreclose new trials on infringement even after broadening the claims a jury used to render a verdict of infringement at trial.

The questions presented are:

1. Whether this Court's precedent under the Seventh Amendment and Fed. R. Civ. P. 50 prevent the Federal Circuit from directing a verdict for respondents and foreclosing petitioner patentee from seeking a new trial after its patent claims are broadened on appeal, especially where the jury found infringement under the erroneously narrow claim construction and where the trial court excluded evidence relevant to the new broadened claim construction?

2. Whether the Federal Circuit can override a jury verdict of infringement under the doctrine of equivalents, with no discussion or analysis of the equivalents issue, by affirming a JMOL of no infringement that was based on an erroneously narrow claim construction and an incomplete record?

PARTIES TO THE PROCEEDING AND RULE 29.6 STATEMENT

The caption contains the names of all parties that appeared in the Federal Circuit.

The full name of every party or amicus represented by me is: TI Group Automotive Systems (North America), Inc. (now known as TI Group Automotive Systems, L.L.C.). The parent companies, subsidiaries (except wholly-owned subsidiaries), and affiliates that have issued shares to the public, of the party represented by me are: TI Automotive Ltd., an English private limited company.

TABLE OF CONTENTS

QUESTIONS PRESENTED i

PARTIES TO THE PROCEEDING AND RULE 29.6 STATEMENT ii

TABLE OF AUTHORITIES vi

OPINIONS BELOW 1

JURISDICTION 1

CONSTITUTIONAL AND OTHER PROVISIONS INVOLVED 2

STATEMENT OF THE CASE 2

Introduction 2

The Proceedings Below 5

REASONS FOR GRANTING THE WRIT 7

I. THE FEDERAL CIRCUIT'S DECISION CONFLICTS WITH PRECEDENT FROM THIS COURT APPLYING THE SEVENTH AMENDMENT AND FED. R. CIV. P. 50 . . . 7

A. Under *Neely*, *Globe* and *Weade* an appellate court cannot direct judgment for the verdict loser where there are new trial issues and an incomplete record 9

B. Under *Cone* an appellate court cannot foreclose a new trial when the district court's legal rulings are changed on appeal 14

C. Under *Reeves*, an appellate court cannot substitute its own findings of fact for the jury's 15

II. THE ISSUES PRESENTED STEM FROM FREQUENTLY OCCURRING APPELLATE REVIEW PRACTICE THAT, IF LEFT UNCHECKED, WILL AGAIN VIOLATE LITIGANTS' RIGHTS 18

III. VARIOUS LEGAL AUTHORITIES HAVE EXPRESSED CONCERN OVER THE PROBLEM OF APPELLATE REVIEW IN THE POST-*MARKMAN* ERA 20

IV. THE FEDERAL CIRCUIT FAILED TO ADDRESS INFRINGEMENT UNDER THE DOCTRINE OF EQUIVALENTS 22

CONCLUSION 25

APPENDIX

Appendix A - Federal Circuit Order Denying Rehearing and Rehearing En Banc - 8/24/04 . . . . . 1a

Appendix B - Federal Circuit Opinion - 6/30/04 . . . 3a

Appendix C - District Court Memorandum and Order - 6/6/03 . . . . . 27a

Appendix D - District Court Memorandum Opinion - 9/4/02 . . . . . 33a

Appendix E - District Court Verdict Form - 6/12/02 . . . . . 55a

Appendix F - Plaintiff-Appellant's Combined Petition for Rehearing and Rehearing En Banc and Motion for New Trial - 7/13/04 . . . . . 68a

TABLE OF AUTHORITIES

CASES **PAGE**

Brinley v. Commissioner of Internal Revenue, 782 F.2d 1326 (5th Cir. 1986) 21

Cone v. West Virginia Pulp and Paper Co., 330 U.S. 212 (1947) 3, 14, 15

Cybor Corp. v. FAS Technologies, Inc., 138 F.3d 1448 (Fed. Cir. 1998) 4

Dimick v. Shiedt, 293 U.S. 474 (1935) 8

D.L Thomas v. American Home Products, Inc., 519 U.S. 913 (1996) 22

Electro Scientific Ind. Inc. v. Dynamic Details, Inc., 307 F.3d 1343 (Fed. Cir. 2002) 20

Exxon Chem. Patents v. *Lubrizol Corp.*, 64 F.3d 1553 (Fed. Cir. 1995) . . . . . *passim*

Exxon Chem. Patents v. *Lubrizol Corp.*, 77 F.3d 450 (Fed. Cir. 1996) 21

Globe Liquor Co. v. San Roman, 332 U.S. 571 (1948) 9, 10, 11

Graver Tank & Mfg. Co. v. Linde Air Products Co., 339 U.S. 605 (1950) 23

Johnson v. Jones, 515 U.S. 304 (1995) 15, 18

Johnson v. New York, N.H. & H.R. Co., 344 U.S. 48 (1952) 9

Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996) . . . . . *passim*

Millipore Corp. v. Travelers Indem Co., 115 F.3d 21 (1st Cir. 1997) 22

Naturist Society, Inc. v. Fillyaw, 958 F.2d 1515 (11th Cir. 1992) 22

Neely v. Martin K. Eby Constr. Co., 386 U.S. 317 (1967) 3, 9, 10, 21

PIN/NIP, Inc. v. Platte Chemical Co., 304 F.3d 1235 (Fed. Cir. 2002) 21

Reeves v. Sanderson Plumbing Products, Inc., 530 U.S. 133 (2000) 3, 15, 18

Satcher v. Honda Motor Co., 993 F.2d 56 (5th Cir. 1993) 22

Teleflex, Inc. v. Ficosa North America, Corp., 229 F.3d 1313 (Fed. Cir. 2002) 19

Union Carbide Chem. & Plastics Tech. Corp. v. Shell Oil Co., 308 F.3d 1167 (Fed. Cir. 2002) . . 16, 23

Vicknair v. Formosa Plastics Corp., 98 F.3d 837 (5th Cir. 1996) 22

Warner-Jenkinson Co., v. Hilton Davis Chemical, 520 U.S. 17 (1997) 23

Weade v. Dichmann, Wright & Pugh, Inc., 337 U.S. 801 (1949) 9, 10

CONSTITUTION:

U.S. Const. Amendment VII . . . . . *passim*

STATUTES:

28 U.S.C. §1254(1) 1

28 U.S.C. §1295 (a)(1) 1

28 U.S.C. §1338(a) 5

RULES:

Fed. R. Civ. P. 50 . . . . . *passim*

Fed. R. Civ. P. 56 8

OTHER:

Kimberly A. Moore, *Are District Court Judges Equipped to Resolve Patent Cases?* 15 Harv. J. L. & Tech. 1 (2001) 4

Andrew T. Zidel, *Patent Claim Construction in the Trial Courts: A Study Showing the Need for Clear Guidance from the Federal Bench*, 33 Seton Hall L. Rev. 711 (2003) 4

Robert L. Harmon, *Patents and the Federal Circuit*, §19.3(c), 1076 (6th ed., BNA 2003) 20

PETITION FOR A WRIT OF CERTIORARI

Petitioner, TI Group Automotive Systems, Incorporated (TI Group) respectfully petitions this Court for a writ of certiorari to review the judgment of the Court of Appeals for the Federal Circuit in this case.

OPINIONS BELOW

The opinion of the Court of Appeals for the Federal Circuit is reported at 375 F.3d 1126 and reproduced in the appendix hereto ("App.") at 3a-26a. The order denying rehearing en banc (App. 1a-2a) is unreported. The opinion of the district court as to respondents' counterclaim of patent invalidity (App. 27a-32a) is unreported. The opinion of the district court as to patent infringement (App. 33a-54a) is unreported.

JURISDICTION

The Court of Appeals for the Federal Circuit entered its judgment on June 30, 2004, and denied rehearing and rehearing en banc on August 24, 2004. The jurisdiction of the Federal Circuit was based on 28 U.S.C. §1295(a)(1). This Court has jurisdiction under 28 U.S.C. §1254(1).

CONSTITUTIONAL AND OTHER PROVISIONS INVOLVED

The Seventh Amendment of the Constitution of the United States of America, provides as follows:

> "In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury shall be otherwise re-examined in any Court of the United States, than according to the rules of the common law."

Fed. R. Civ. P. 50(a) provides in part:

> (1) If during a trial by a jury a party has been fully heard on an issue and there is no legally sufficient evidentiary basis for a reasonable jury to find for that party on that issue, the court may determine the issue against that party and may grant a motion for judgment as a matter of law against that party with respect to a claim or defense that cannot under the controlling law be maintained or defeated without a favorable finding on that issue.

STATEMENT OF THE CASE

Introduction

This petition seeks to stop an unconstitutional extension of the Federal Circuit's appellate review authority wherein patentee's rights were broadened on appeal, yet summarily disposed of without affording patentee any opportunity to be heard under its broadened rights. More specifically, in this case the Federal Circuit affirmed a JMOL that overturned a

jury verdict of infringement even though the Federal Circuit substantially broadened the claims and thereby destroyed the very basis for the district court's JMOL. The Federal Circuit's unwarranted disposition of this case has stripped patentee of its Seventh Amendment right to jury trial of the factual question of patent infringement under its patent claims as broadened on appeal.

The Federal Circuit's decision also conflicts with this Court's Rule 50 precedent in *Neely, Cone,* and *Reeves*[1] which ensures litigants a fair opportunity to be heard on all properly asserted issues before those issues are finally decided. This is especially true when, on appeal, the law of the case is changed and new trial issues are created. See e.g. *Neely,* 386 U.S. at 325 (1967)("...an appellate court may not order judgment *n.o.v.* where ... the record reveals a new trial issue which has not been resolved."). This cannot be satisfied here, where patentee's rights were substantially broadened on appeal, yet patentee has been foreclosed from asserting these broadened rights, and further when the district court excluded evidence relevant to patentee's broadened rights.

In the context of patent litigation, the construction given a patent claim is the foundation upon which a determination of infringement must be made. Infringement cannot be determined in the abstract, but rather, it is determined based on review of every element in a patent claim. The meaning or construction of the terms or elements in a patent claim is determined by the court as a matter of law. *Markman v.*

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[1] *Neely v. Martin K. Eby Construction Co.*, 386 U.S. 317 (1967); *Cone v. West Virginia Pulp and Paper Co.*, 330 U.S. 212 (1947); and *Reeves v. Sanderson Plumbing Products, Inc.*, 530 U.S. 133 (2000).

Westview Instruments, Inc., 517 U.S. 370 1996). Since this Court's decision in *Markman,* claim construction usually is determined before a trial on infringement.

So in most all post-*Markman* patent jury trials, as in the present case, the district court instructs the jury to decide infringement solely in view of the district court's predetermined claim construction. But appellate broadening of the patent claims undermines the very foundation for the district court's infringement determination. When this occurs, new trial issues are raised that cannot fairly be decided against patentee based on the trial record since patentee was limited to building the trial record upon an improper foundation.

This issue frequently arises since, by most estimates, the Federal Circuit reverses district court claim constructions in about 33% to 40% of all cases where claim construction issues are raised on appeal. See e.g. *Cybor Corp. v. FAS Technologies, Inc.*, 138 F.3d 1448, 1476 (Fed. Cir. 1998) (Circuit Judge Rader, dissenting, stated {}"one study shows that the plenary standard of review has produced reversal, in whole or in part, of almost 40% of all claim constructions since *Markman I*"); Kimberly A. Moore, *Are District Court Judges Equipped to Resolve Patent Cases?,* 15 Harv. J. L. & Tech. 1 (2001) republished in 12 Fed. Cir. Bar Journal 1 (2002) (discussing a claim construction reversal rate of 33%);{} and Andrew T. Zidel, *Patent Claim Construction in the Trial Courts: A Study Showing the Need for Clear Guidance from the Federal Bench*, 33 Seton Hall L. Rev. 711, 746 (2003) (noting a 41.5% reversal rate in appeals decided in the year 2001). This case demonstrates the problems that can arise from an erroneously narrow district court claim construction, which, when mandated before trial, sets an unstable foundation for the remainder of the case.

This is especially true here, where several claim terms were significantly broadened by the Federal Circuit on appeal, and evidence relevant to infringement under the broader claim construction adopted on appeal was excluded at trial. Therefore, this case provides the perfect vehicle for this Court to resolve the significant questions presented.

The Proceedings Below

All parties manufacture and sell automotive fuel pump assemblies that are mounted in vehicle fuel tanks to pump fuel under pressure to the vehicle engine. Petitioner sued respondents alleging certain of respondents' fuel pump assemblies infringed petitioner's U.S. Patent No. 4,860,714. The district court had jurisdiction under 28 U.S.C. §1338(a). Well before trial, the district court held a "*Markman*" hearing and construed the patent claims as a matter of law. At trial, the district court instructed the jury to determine infringement with regard only to its construction of the claims, as is the usual practice since this Court's *Markman* decision. During trial, the district court excluded evidence offered by petitioner that the district court determined was not relevant to the infringement issue in view of its erroneously narrow claim construction. See e.g. App. 82a-84a, 91a-93a. This excluded evidence is relevant to the claims as more broadly construed by the Federal Circuit. App. 82a-84a. Based on the given instructions, the jury returned a verdict in favor of petitioner finding that respondents' fuel pump assemblies infringed the '714 patent both literally and under the doctrine of equivalents. The jury awarded petitioner over $10,700,000 in damages. The jury also found that respondents' infringement was willful, and rejected respondents' defense that the '714 patent was invalid. A substantially detailed jury verdict form setting forth the jury's findings and verdict is included in the appendix hereto at 55a-67a.

Respondents moved for judgment as a matter of law (JMOL) under Fed. R. Civ. P. 50(b) on the infringement and validity issues. The district court granted the motion as to infringement (and thereby overturned the jury verdict of infringement), but denied the motion as to validity. See App. 27a as to validity, and App. 33a as to infringement.

Petitioner appealed to the Federal Circuit to correct errors in the district court's claim construction and to overturn the JMOL on infringement. Petitioner's appeal briefs presented substantial evidence supporting the jury verdict of infringement. The Federal Circuit reviewed the district court's claim construction *de novo* and found that the district court's claim construction resulted in "erroneously narrowly construed claims." App. 25a. The Federal Circuit, therefore, broadened the scope of several key claim elements as petitioner requested. App. 3a.

After correcting the district court's legal errors by broadening the patent claims, the Federal Circuit applied the claims to the incomplete trial record and directed judgment of no infringement in favor of respondents. The Federal Circuit justified its action with its 1995 case, *Exxon v. Lubrizol*, which states in pertinent part:

> When we determine on appeal, as a matter of law, that a trial judge has misinterpreted a patent claim, we independently construe the claim to determine its correct meaning, and then determine if the facts presented at trial can support the appealed judgment. If not, we reverse the judgment below without remand for a second trial on the correct law.

Exxon Chemical Patents, Inc., v. Lubrizol Corp., 64 F.3d 1553, 1560 (1995). But here the Federal Circuit stretched

Exxon beyond its bounds and into conflict with this Court's precedent and the safeguards inherent in Fed. R. Civ. P. 50.

Petitioner requested a rehearing in the Federal Circuit to stop the unwarranted extension of the *Exxon* principles to this case where there are new trial issues and the factual record is incomplete. App. 68a-93a. But that petition was denied without opinion. App. 1a-2a.

Petitioner also moved for a new trial (App. 80a, 88a), but that motion was not addressed. Petitioner made its motion for a new trial promptly after the Federal Circuit changed the law of the case by broadening the patent claims. This was the first time that petitioner's new and broadened claims were set forth, and thus represented the first opportunity for petitioner to seek a new trial on the factual issue of infringement in view of its broadened claims.

Certiorari should therefore be granted because only this Court can restore the proper appellate review procedures in the Federal Circuit and enforce petitioner's right to a jury trial.

REASONS FOR GRANTING THE WRIT

I. THE FEDERAL CIRCUIT'S DECISION CONFLICTS WITH PRECEDENT FROM THIS COURT APPLYING THE SEVENTH AMENDMENT AND FED. R. CIV. P. 50.

The Federal Circuit extended *Exxon* unconstitutionally to foreclose petitioner from proving infringement under its broadened patent rights. Rather than permit petitioner to be heard under the full scope of its rights as defined on appeal, the Federal Circuit decided the infringement issue against

petitioner based solely on the incomplete trial record that was generated with "erroneously narrowly construed" claims. App. 25a.

The proper construction of patent claims is a question of law for the courts to decide. *Markman*, 517 U.S. at 391. Patent infringement is determined by applying properly construed patent claims to an accused device, and infringement is a question of fact subject to the Seventh Amendment right to a jury trial. *Markman*, 517 U.S. at 377. Beyond *Markman*, this Court has a corpus of law under the Seventh Amendment and Rule 50 emphatically upholding the fundamental right to a jury trial. As noted in *Dimick v. Shiedt*, 293 U.S. 474 (1935), "The right of trial by jury is of ancient origin, characterized by Blackstone as 'the glory of the English law' and 'the most transcendent privilege which any subject can enjoy'," and "[m]aintenance of the jury as a fact-finding body is of such importance and occupies so firm a place in our history and jurisprudence that any seeming curtailment of the right to a jury trial should be scrutinized with the utmost care." *Dimick*, 293 U.S. at 485-6.

But here, the Federal Circuit decided the factual issue of infringement against petitioner and foreclosed a new trial even though its broader claim construction created new issues, even though it had an incomplete factual record, and even though petitioner received a jury verdict in its favor that was supported by substantial evidence. In situations like this, a remand to the district court is necessary so that the factual and evidentiary issues can be explored under the new law of the case.

On remand the district court should determine if a new trial is warranted. Even if district courts permit summary judgment proceedings under Fed. R. Civ. P. 56 after remand,

the parties will at least have that opportunity to be heard as to the effect of the changed claim construction. This would provide some procedural safeguard for a jury's verdict and a litigant's right to a jury trial. Foreclosing any opportunity for the parties to be heard by deciding new fact issues on appeal simply rushes the case to a conclusion and does not serve the interests of justice. Judicial economy is a laudable goal, but it cannot supersede a litigant's right to a fair hearing, or a litigant's Seventh Amendment right to have a jury decide critical fact issues.

A. Under *Neely*, *Globe* and *Weade*, an appellate court cannot direct judgment for the verdict loser where there are new trial issues and an incomplete record.

The Federal Circuit's decision conflicts with this Court's longstanding precedent set forth, for example, in *Neely v. Martin K. Eby Constr. Co.*, 386 U.S. 317 (1967) and *Globe Liquor Co. v. San Roman*, 332 U.S. 571 (1948). In *Neely*, this Court set forth strong policy considerations that weigh against an appellate court entering judgment on appeal against a verdict winner. Among these considerations are the "erroneous exclusion of evidence that would have strengthened" the party's case, and when "the trial court itself caused the insufficiency in [the party's] case by erroneously placing too high a burden of proof on him at trial." *Neely*, 386 U.S. at 327. In discussing its precedent in *Globe*, *Johnson* v. New *York, N.H. & H.R. Co.*, 344 U.S. 48, and *Weade* v. *Dichmann, Wright & Pugh, Inc.*, 337 U.S. 801 this Court stated in *Neely* that:

> an appellate court may not order judgment *n. o. v.* where the verdict loser has failed strictly to comply with the procedural requirements of Rule 50(b), *or where the record reveals a new trial issue which has*

> *not been resolved.* Part of the Court's concern has been to protect the rights of the party whose jury verdict has been set aside on appeal and who may have valid grounds for a new trial, some or all of which should be passed upon by the district court, rather than the court of appeals, because of the trial judge's firsthand knowledge of witnesses, testimony, and issues – because of his 'feel' for the overall case. (emphasis added). *Neely*, 386 U.S. at 325.

These same considerations are present here. Petitioner was prevented from entering evidence at trial that the district court found irrelevant to its erroneous claim construction. App. 82a-84a, 91a-93a. This was prejudicial to petitioner because the excluded evidence is directly relevant to the post-trial claim construction, and a finding of infringement under that construction. Also, the significant post-trial broadening of petitioner's rights raises several new issues never reached at trial, let alone resolved. The Federal Circuit cannot override a jury infringement verdict and order judgment for the infringer where there are new issues that have not been tried and resolved. See e.g. *Neely,* 386 U.S. at 325; *Weade*, 337 U.S. at 809. So petitioner here should get an opportunity to make its case under its broadened rights, or at the very least, present its grounds for a new trial in view of its broadened rights.

Like *Neely,* this Court's decision in *Globe* prohibits an appellate court from foreclosing further proceedings when relevant evidence is not in the trial record. In *Globe,* the parties disputed whether certain evidence was properly of record. Based on that evidentiary dispute, this Court reversed the appellate court's judgment ending the case and noted the ". . . importance of having the District Court first pass upon whether its error should result in a new trial or in a judgment

finally ending the controversy." *Globe*, 332 U.S. at 573. As set forth in *Globe*, the exclusion of relevant evidence in this case based on the district court's erroneous claim construction requires the district court to consider if a new trial is appropriate, and it prevents the Federal Circuit from summarily ending this case.

By preventing an appellate court from foreclosing a new trial where new issues are raised on appeal and the trial record is incomplete, this Court's precedent ensures litigants are given an opportunity to be fully heard before issues are decided against them. That litigants are entitled to a full hearing is also expressly set forth in the federal civil procedure rules, specifically, Fed. R. Civ. P. 50(a)(1), which provides, in pertinent part, that:

> "If during a trial by a jury a party has been fully heard on an issue and there is no legally sufficient evidentiary basis for a reasonable jury to find for that party on that issue, the court may determine the issue against that party and may grant a motion for judgment as a matter of law against that party. . ."

In violation of that requirement, the Federal Circuit's judgment as a matter of law in this case has foreclosed petitioner from a trial under the full scope of its patent rights. Petitioner has also been foreclosed from being heard on its evidence of infringement that the district court excluded at trial in view of its erroneously narrow claim construction.

The Federal Circuit's apparent justification for summarily deciding the case on appeal is fatally flawed. The Federal Circuit apparently reasoned that since it affirmed the trial court's construction of two claim terms, namely "within" and "reservoir," it could also affirm the district court's JMOL

finding that in the accused device the "pumping means" was not "within the reservoir" as required by the claim. On this basis the Federal Circuit stated it could dispose of this case without further review. App. 25a. But the Federal Circuit created new infringement issues on the very claim terms it used for its finding of no infringement, namely, as to whether in respondents' device the "pumping means" is inboard the "opening" and therefore, within the reservoir. App. 24a. This was the sole inquiry upon which the Federal Circuit determined that there was no infringement.

But that inquiry was very different from the one undertaken in the district court since both claim terms upon which that inquiry is based, the "pumping means" and the "opening," were significantly broadened by the Federal Circuit. (See App. 15a-17a for "pumping means" and App. 21a-22a for "opening").[2] Accordingly, whether the respondents' device includes a pumping means (as that term has been more broadly defined on appeal) inboard an opening (as that term has been more broadly defined on appeal) is a new fact issue that neither the jury nor the district court has ever considered, let alone decided. By deciding these new infringement issues on appeal, and especially in favor of the verdict losing infringer, the Federal Circuit violated this Court's precedent and petitioner's Seventh Amendment right to have a jury decide these issues.

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[2] Under the Federal Circuit's new and broader definitions, an "opening" can be, among other things, a "passage" and not merely an "aperture," as the district court found. App. 21a. Moreover, the Federal Circuit found that "pumping means" requires only a nozzle aligned with a venturi tube, and does not include several other remotely-extending structures erroneously required by the district court. App. 16a.

Additionally, even though the Federal Circuit stated that it did not change the construction of the claim term "reservoir," it seems to have adopted only part of the construction used by the district court and the jury. Specifically, the Federal Circuit's construction of "reservoir" does not include the portion of the district court's construction that states "the 'reservoir' does not include all things that can house fuel." Compare App. 15a. with App. 40a. The district court thought this additional language was critical enough to add to the jury instruction after the close of evidence, and to use in its JMOL decision. App. 40a. But the Federal Circuit's definition of reservoir does not include this language, and so its definition is broader than the district court's limiting definition. Accordingly, the justification used by the Federal Circuit to decide infringement on appeal in this case is fatally flawed.

In addition to the constitutional issues, it is apparent that extension of *Exxon* to this case is improper due to substantial procedural and legal differences between the cases. During the trial in *Exxon* both parties were able to submit all of their proposed claim constructions, infringement evidence and arguments to the jury.[3] The trial court in *Exxon* did not construe the claims before trial, and only did so in its instructions when submitting the case to the jury. *Exxon*, 64 F.3d at 1561. Further, in *Exxon,* the Federal Circuit narrowed the claims on appeal and then decided there was no infringement under the narrower claims. But here, the district

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[3] In this regard, the Federal Circuit stated that "Exxon could have argued and sought to prove" infringement under the claim construction adopted on appeal, and further that "Exxon cannot now claim surprise" at the claim construction adopted on appeal and "cry foul in not having a second chance to prove what it was free to prove at trial." *Exxon*, 64 F.3d at 1561.

court construed the claims before trial and prevented petitioner from offering any evidence contrary to the district court's claim construction, and the Federal Circuit broadened petitioner's claims on appeal. Therefore, unlike the patentee in the *Exxon* case, petitioner in this case has not been fully heard on the infringement issue, and in fact has been prevented from being heard at all on the claim construction first adopted on appeal. *Exxon* is simply not on point, so the Federal Circuit was wrong to apply it.

B. Under *Cone* an appellate court cannot foreclose a new trial when the district court's legal rulings are changed on appeal.

In *Cone*, the appellate court overturned a jury verdict and entered judgment for the verdict loser after it changed the law the jury used to decide the case. This Court reversed the appellate court to permit the verdict winner to be heard in the district court as to whether a new trial was needed in view of the changed law. This Court stated that there were practical reasons why "a litigant should not have his right to a new trial foreclosed without having had the benefit of the trial court's judgment on the question." *Cone*, 330 U.S. at 217. One of these reasons is that the trial court is in a better position to review the new issues created when the law is changed on appeal. In this regard, the Court ruled that:

> Determination of whether a new trial should be granted or a judgment entered under ~~Rule~~ 50(b) calls for the judgment in the first instance of the judge who saw and heard the witnesses and has the feel of the case which no appellate printed transcript can impart. Exercise of this discretion presents to the trial judge an opportunity, after all his rulings have been made and all the evidence has been evaluated, to view the

> proceedings in a perspective peculiarly available to him alone. *Cone*, 330 U.S. 216 (citations removed).

This rule applies here because the district court has never had the chance to consider whether a new trial is required in light of the new claim constructions. Here, the Federal Circuit applied *Exxon* to foreclose any chance for further consideration in the district court even though the appeal uncovered new issues and evidence that was improperly excluded. Such a use of *Exxon* cannot be squared with *Cone*.

C. Under *Reeves*, an appellate court cannot substitute its own findings of fact for the jury's.

This Court's precedent in *Reeves v. Sanderson Plumbing Products, Inc.*, 530 U.S. 133 (2000) provides safeguards for jury verdicts, and sets forth stringent requirements that must be met before an appellate court can override a jury verdict. Before granting judgment as a matter of law, a court must: ". . . review all of the evidence in the record;" "draw all reasonable inferences in favor of the nonmoving party. . .;" and ". . . disregard all evidence favorable to the moving party that the jury is not required to believe;" and a court ". . .may not make credibility determinations or weigh the evidence." *Reeves*, 530 U.S. at 150-1. It is often stated that the court must view all evidence in a light most favorable to the nonmoving party. See e.g. *Johnson v. Jones*, 515 U.S. 304, 319 (1995).

The Federal Circuit's *Exxon* practice includes none of these safeguards, and indeed none of them were applied by the Federal Circuit in this case. After changing the claims, which are the law of the case in an infringement suit, the Federal Circuit's *Exxon* practice seeks only to determine "if the facts presented at trial supported the appealed judgment."

Exxon, 64 F.3d at 1560. This shortcut review undertaken by the Federal Circuit makes no mention of the safeguards required by this Court to protect jury verdicts and enforce the provision in the Seventh Amendment that says ". . .and no fact tried by a jury shall be otherwise re-examined in any Court of the United States, than according to the rules of the common law." The shortcut review set forth in *Exxon* is further troubling in this case since the appealed judgment was the district court's JMOL, which is entitled to no deference on appeal. *Union Carbide Chem. & Plastics Tech. Corp. v. Shell Oil Co.*, 308 F.3d 1167, 1188 (Fed. Cir. 2002). Accordingly, in seeking to determine if the trial record supports the district court's JMOL the Federal Circuit improperly assumed the correctness of the district court's findings of fact.

Further, the shortcut review of *Exxon* assumes the trial record is complete, which the Federal Circuit stated was the case in *Exxon*. Since in this case relevant evidence was excluded by the trial court, the trial and appellate records are not complete. Accordingly, all relevant evidence cannot be viewed in a light most favorable to petitioner. Still, petitioner has not even had an opportunity to demonstrate what new trial issues have been created, or what inferences are now appropriate in view of the broadened claim construction. So the Federal Circuit could not have drawn all reasonable inferences in petitioner's favor prior to the judgment as a matter of law. Indeed, from the cold appellate record, petitioner submits that it is highly unlikely the Federal Circuit could even recognize all reasonable inferences in view of petitioner's broadened rights, let alone decide them in petitioner's favor as it is required to do. Certainly, the opinion of the Federal Circuit does not demonstrate it did so. Accordingly, the Federal Circuit's affirmation of the district court's JMOL is improper because the Federal Circuit

changed the very legal rulings of claim construction relied upon by the district court in its JMOL.

The Federal Circuit has further run afoul of this Court's Rule 50 precedent since it decided contested factual issues against the nonmoving party in this case. As previously noted, despite its conclusory statement to the contrary, the Federal Circuit's broadening of the claim terms "opening" and "pumping means" impacted the construction of the term "reservoir" and critically undermined the very basis for the district court's decision to overturn the jury verdict. Further, respondents have never contested the fact that its fuel pump assemblies do in fact have a reservoir, so whether or not that term was changed on appeal is not dispositive of the infringement issue.

A hotly contested issue in this litigation related to the precise boundary of the reservoir in respondents' device. The answer to that question has a direct impact on the specific question the Federal Circuit found controlling for the infringement issue, namely, whether the respondents' "pumping means" was "within the reservoir."

At trial, petitioner and respondents set forth their evidence and arguments as to the boundary of the reservoir. Respondents argued that, based on their application of the district court's claim construction, the boundary of the reservoir was such that the pumping means was not inboard the opening. Petitioner repeatedly and consistently refuted respondents' contentions and demonstrated at trial that a different boundary of the reservoir was proper under the district court's claim construction. Under the boundary proven by petitioner it is clear that the pumping means is within the reservoir, as called for in the patent claims. The jury accepted petitioner's proofs, and rejected respondents'

arguments, as it was entitled to do. The jury found that respondents' device infringed petitioner's patent both literally and under the doctrine of equivalents. App. 55a-63a.

However, the Federal Circuit found that in respondents' fuel pump assemblies, the pumping means is outboard the opening. To determine this required the Federal Circuit to adopt as a fact that the reservoir boundary was different from that proven by petitioner at trial, and different from that accepted by the jury. The Federal Circuit is not entitled to do so in the face of evidence supporting the jury's decision on this hotly contested trial issue. In fact, the Federal Circuit is required to disregard respondents' evidence as to the boundary of its reservoir since the jury was not required to believe it over that proven by petitioner. *Reeves*, 530 U.S. at 151. Further, to state, as the Federal Circuit did, that petitioner failed to provide support for the jury verdict required the Federal Circuit to have made its determination as to the reservoir boundary before examining the record. The Federal Circuit is required to review all of the evidence of record in a light most favorable to petitioner. *Johnson*, 515 U.S. at 319. There was substantial evidence supporting the boundary adopted by the jury, and a finding of infringement based thereon. App. 84a-85a.

II. THE ISSUES PRESENTED STEM FROM FREQUENTLY OCCURRING APPELLATE REVIEW PRACTICE THAT, IF LEFT UNCHECKED, WILL AGAIN VIOLATE LITIGANTS' RIGHTS.

The Federal Circuit's summary disposition of patent infringement suits despite changing the legal foundation for infringement in the suits is in reaction to a growing problem in the patent field. Since this Court's decision in *Markman*,

the Federal Circuit has overturned district court claim constructions about 40% of the time.[4] This problem occurs frequently, and will continue to occur if not corrected by this Court. The basic problem is how to deal with the infringement issues after undermining the very legal foundation upon which this issue was decided at trial.

On appeal of a patent infringement issue, there are four potential rulings, two of which do not require a remand assuming the trial provided a full opportunity to be heard. First, when a judgment of infringement is appealed and the Federal Circuit broadens the scope of a patent claim, remand is not necessary since the broader claim fully supports and does not undermine the infringement finding. See e.g. *Teleflex, Inc.* v. *Ficosa North America, Corp.*, 299 F.3d 1313 (Fed. Cir. 2002). Second, when a judgment of no infringement is appealed and the Federal Circuit narrows the scope of a patent claim, remand seems unnecessary since the narrower claim fully supports and does not undermine the determination of no infringement. Third, when a judgment of infringement is appealed and the Federal Circuit narrows the scope of a patent claim, remand may be required in some instances, but not others. The broader claim scope that served as the basis for the trial may well have permitted the parties to enter and be heard on all of their evidence on the points in question. If so, remand may well be unnecessary.

In the fourth scenario, which is this case, a judgment of no infringement is appealed and the Federal Circuit broadens the scope of a patent claim on appeal. In this scenario, the determination of no infringement is undermined since it was made with an improperly narrow claim construction, and

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[4] As discussed on page 4 of this petition.

infringement is easier to prove with a broader claim construction. Further, it is highly unlikely that the trial record will or can be complete when the trial was conducted based on an improperly narrow claim construction. This is especially true in this case where the district court excluded evidence relevant to infringement under the broader claims adopted on appeal. The broader claims adopted on appeal create new issues that cannot be resolved on appeal in view of the incomplete trial record. In these situations, summary disposition cannot be entered since doing so prevents the losing party from ever having the opportunity to prove infringement under the correct legal standards.

III. VARIOUS LEGAL AUTHORITIES HAVE EXPRESSED CONCERN WITH THIS PROBLEM OF APPELLATE REVIEW IN THE POST-*MARKMAN* ERA.

The various scenarios in patent infringement suits are not being handled consistently in the Federal Circuit, and at least one commentator has noted, "the [Federal Circuit] is sending mixed signals concerning the length of its reach to decide infringement issues in the first instance." Robert L. Harmon, *Patents and the Federal Circuit*, §19.3(c), 1076 (6th ed., BNA 2003) (citing *Exxon* as an example where the Federal Circuit decided infringement even after changing the claim construction, and other cases, where the court has followed the more "traditional approach" of remanding undecided infringement questions). Notably, the Federal Circuit in some cases has followed the practice of remanding cases where the claim construction has been changed on appeal. See e.g. *Electro Scientific Ind. Inc., v. Dynamic Details, Inc.*, 307 F.3d 1343, 1350 (Fed. Cir. 2002), ("Because this appellate court possesses no tools or mandate for fact-finding, a change in the claim construction at the appellate level generally

necessitates a remand to the district court to resolve any new factual issues raised by the new claim construction, except, of course, in the rare instance that the record on appeal leaves no genuine issues of material fact and entitles the movant to judgment as a matter of law." (emphasis added); *PIN/NIP, Inc., v. Platte Chemical Co.*, 304 F.3d 1235, 1246 (Fed. Cir. 2002) (after a jury verdict of infringement, the Federal Circuit adopted defendant's proposed claim construction, and remanded to the district court because defendant "should have an opportunity to prove its infringement case under [the new] claim construction").

The inconsistent handling of these types of cases in the Federal Circuit is not surprising since the Federal Circuit itself found *Exxon* controversial when it was decided. See e.g. *Exxon,* 64 F.3d at 1563, Judge Nies, dissenting; and *Exxon Chemical Patents, Inc. v. Lubrizol Corp.*, 77 F.3d 450, (denying petition for rehearing and rehearing en banc), Circuit Judge Mayer, concurring, at 451, and Circuit Judge Newman, dissenting, at 451-457). Even though the panel majority found that the parties had a full opportunity to be heard on the infringement issue, there was a strong dissent from Judge Newman on that issue. Citing this Court's decision in *Neely*, Judge Newman stated that "[a]s a matter of procedural justice a litigant is entitled to present its case when the court changes the law." *Exxon*, 77 F.3d at 457. The law Judge Newman referred to was the claim construction adopted by the Federal Circuit in that case. Judge Newman also cited the Fifth Circuit decision in *Brinley v. Commissioner of Internal Revenue*, 782 F.2d 1326, 1336 (5th Cir. 1986) (noting that justice requires the opportunity to present

evidence in light of the new legal ruling established on appeal).[5]

The inconsistent handling of these issues is as close to a split among circuits as is possible in regard to this Court's Rule 10 because the Federal Circuit has exclusive jurisdiction over patent matters. When it comes to the fundamental rights of litigants, such as the right to a full and fair hearing, it should not come down to the luck of the draw as far as what members of the Federal Circuit are on a given panel. This Court should grant certiorari to clarify this critical issue of appellate review authority.

IV. THE FEDERAL CIRCUIT FAILED TO ADDRESS INFRINGEMENT UNDER THE DOCTRINE OF EQUIVALENTS.

The jury in this case found that respondents' device infringed both literally and under the doctrine of equivalents. App. 55a-63a. The district court overturned that verdict as to both findings in granting respondents' motion for JMOL

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[5] This Court and other appellate courts have remanded similar cases to give a court an opportunity to review its prior decision in view of a change in the law applicable to the decision. See e.g. *D.L Thomas v. American Home Products, Inc.*, 519 U.S. 913 (1996) (granting certiorari, vacating judgment below and remanding for further review in light of intervening change in legal ruling); and *Vicknair v. Formosa Plastics Corp.*, 98 F.3d 837, 839 (5th Cir. 1996) (vacating and remanding for prudential reasons in light of changed law to afford trial court the first opportunity to apply new law to the facts). See also *Satcher v. Honda Motor Co.*, 993 F.2d 56, 57 (5th Cir. 1993); *Naturist Society, Inc. v. Fillyaw*, 958 F.2d 1515, 1524 (11th Cir. 1992); and *Millipore Corp. v. Travelers Indem. Co.*, 115 F.3d 21, 34 (1st Cir. 1997).

(App. 54a); and petitioner appealed the district court's decision as to both literal infringement and infringement under the doctrine of equivalents. App. 11a.

However, the Federal Circuit's decision failed to even mention the equivalents issue, and contains no analysis of it. Instead, the Federal Circuit summarily concludes that "[b]ecause a finding of infringement requires that all limitations be found in the accused device, we affirm the district court's determination that no reasonable juror could have concluded that [respondents'] device infringed. Thus, we affirm the judgment of non-infringement in favor of [respondent]." This blanket statement as to infringement does not set forth, nor is it supported by, any analysis of the requirements for determining infringement under the doctrine of equivalents.

The district court's judgment as a matter of law as to infringement under the doctrine of equivalents is entitled to no deference on review by the Federal Circuit. *Union Carbide,* 308 F.3d at 1188. So to affirm that judgment, the Federal Circuit must reapply the JMOL standards giving deference to the jury's findings of fact. In doing so, the Federal Circuit must undertake a proper analysis of infringement under the doctrine of equivalents which requires review of whether the alleged difference between the accused device and a patent claim element is substantial. *Warner-Jenkinson Co., v. Hilton Davis Chemical*, 520 U.S. 17, 24 (1997). The most common test to determine if the alleged difference is substantial, is to determine if the accused device performs substantially the same function as claimed, in substantially the same way to achieve substantially the same result. *Graver Tank & Mfg. Co. v. Linde Air Products Co., 339 U.S. 605,608 (1950).*

The basis for the Federal Circuit's finding of no literal infringement in this case was its belief that respondents' pumping means is not "inboard the opening," a finding it believed necessary to determine if the "pumping means" was "within the reservoir" as required by the patent claims. At best, that inquiry relates to an analysis of literal infringement. It does not relate in any manner to whether that alleged difference is substantial. Nor does it examine the function-way-result test commonly used to analyze this issue. Indeed, because the Federal Circuit's decision is utterly devoid of any such analysis, or even a conclusion on the issue, it is unclear if the Federal Circuit even considered infringement under the doctrine of equivalents. Still, the fact that it affirmed the JMOL of no infringement in its entirety is a denial of petitioner's Seventh Amendment right that should not stand.

Remand is therefore necessary for consideration of the equivalents issue. Remand is also required for consideration of how broadening of the critical terms "opening" and "pumping means" affects infringement under the doctrine of equivalents in view of the Federal Circuit's reliance on these terms for its finding of no infringement. Importantly, infringement under the doctrine of equivalents, like literal infringement, is a fact issue to which petitioner has a Seventh Amendment right to a jury trial. For most, if not all, of the reasons noted in this petition with respect to literal infringement, petitioner is entitled to a new trial on the equivalents issue in view of the new issues created by the Federal Circuit's broadening of critical claim terms.

CONCLUSION

Petitioner respectfully requests that this petition be granted.

Respectfully submitted,

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Date: November 19, 2002

APPENDIX A

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

Nos. 02-1630, 03-1482

[Filed August 24, 2004]

TI GROUP AUTOMOTIVE SYSTEMS (NORTH AMERICA), INC. (now known as TI Group Automotive Systems, L.L.C.) Plaintiff-Appellant,	)
v.	)
VDO NORTH AMERICA, L.L.C., MANNESMANN VDO AG, SIEMENS VDO AUTOMOTIVE CORP., and SIEMENS VDO AUTOMOTIVE AG, Defendants-Cross Appellants.	)

ORDER

A combined petition for panel rehearing and for rehearing en banc having been filed by the APPELLANT, and a response thereto having been invited by the court and filed by the CROSS-APPELLANTS, and the petition for rehearing having been referred to the panel that heard the appeal, and

thereafter the petition for rehearing en banc and response having been referred to the circuit judges who are in regular active service,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for panel rehearing be, and the same hereby is, DENIED and it is further

ORDERED that the petition for rehearing en banc be, and the same hereby is, DENIED.

The mandate of the court will issue on August 31, 2004.

APPENDIX B

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

Nos. 02-1630, 03-1482

[Decided June 30 2004]

TI GROUP AUTOMOTIVE SYSTEMS (NORTH AMERICA), INC. (now known as TI Group Automotive Systems, L.L.C.) Plaintiff-Appellant,	)
v.	)
VDO NORTH AMERICA, L.L.C., MANNESMANN VDO AG, SIEMENS VDO AUTOMOTIVE CORP., and SIEMENS VDO AUTOMOTIVE AG, Defendants-Cross Appellants.	)

Appealed from United States District Court
for the District of Delaware
Judge Gregory M. Sleet

JUDGES: Before NEWMAN, BRYSON, and LINN, Circuit Judges.

OPINION

LINN, Circuit Judge.

TI Group Automotive Systems, L.L.C. ("TI Group"), appeals from a post-trial decision of the United States District Court for the District of Delaware, granting a motion for judgment as a matter of law ("JMOL") that VDO North America, L.L.C., Mannesmann VDO AG, Siemens VDO Automotive Corp., and Siemens VDO Automotive AG (collectively "VDO" or "defendants") do not infringe U.S. Patent No. 4,860,714 ("the '714 patent"). *TI Group Auto. Sys., (N. Am.), Inc. v. VDO N. Am., L.L.C.*, 2002 U.S. Dist. LEXIS 17783, No. 00-432-GMS (D. Del. Sept. 4, 2002) ("*JMOL Infringement Opinion*"). The defendants cross-appeal the district court's denial of their motion for JMOL of invalidity of the '714 patent. *TI Group Auto. Sys., (N. Am.), Inc. v. VDO N. Am., L.L.C.*, 2003 U.S. Dist. LEXIS 9422, No. 00-432-GMS (D. Del. June 6, 2003) ("*JMOL Invalidity Opinion*"). Because we affirm the district court's claim constructions of the disputed terms "reservoir" and "within," and further, because we conclude that the facts presented at trial are sufficient to support the district court's grant of judgment of non-infringement in VDO's favor, we affirm the district court's JMOL Infringement Opinion. However, because we reverse some of the district court's claim constructions, we vacate the district court's JMOL Invalidity Opinion and remand the invalidity issues to the district court for further proceedings in light of the claim constructions set forth in this opinion.

BACKGROUND

TI Group is an automotive supplier that makes fuel tanks, fuel pump assemblies, and complete fuel tank systems. TI

Group has sold over thirty million fuel pump assemblies that embody the '714 patent, and has licensed the technology to other suppliers, including Delphi, a former subsidiary of General Motors. Beginning in the late 1990s, General Motors sought a second source for its "supply-side" pump assemblies because Delphi was having labor difficulties. Although TI Group submitted bids, General Motors awarded the contracts to VDO. The fuel pump assemblies supplied to General Motors by VDO were essentially drop-in replacements for the licensed Delphi assemblies.

A. The '714 Patent

TI Group owns the '714 patent which is directed to fuel pump assembly technology. The '714 patent is directed to an in-tank fuel assembly for fuel-injected engines. The assembly provides a constant and reliable supply of fuel even when the fuel in the fuel tank is low, or when the vehicle is navigating a sharp turn, traveling over a steep incline, or after the vehicle has been parked on an incline for an extended period of time. '714 patent, Abstract; *id.* at col. 1, ll. 26-34. This constant supply prevents engine fuel starvation, a problem that can cause the engine to rattle, lurch, or stall.

See Fold Out Exhibit
Fig. 1

Figure 1 of the '714 patent illustrates an embodiment of the invention. Although Figure 1 illustrates a dual fuel tank arrangement, single tank arrangements are more common and offer the advantages of compactness and ease of repair or replacement. *Id.* at col. 4, ll. 21-26; *id.* at col. 6, ll. 11-38. The assembly includes a reservoir 10 having top and bottom openings 12 and 14. A high pressure pump 26 sits in reservoir 10 and pumps fuel to the engine's fuel injectors 116 by way of line 106. Jet pump 30, including nozzle 54 and venturi tube 58, supplies the reservoir with fuel by drawing fuel from the fuel tank via opening 14. Even when the fuel in the tank is low, the action of jet pump 30 will maintain a comparatively high level of fuel in reservoir 10 and around inlet 42 to the high pressure pump 26. Preferred embodiments include check valve 22 that prevents fuel above the valve from leaking out when the unit is not operating. Check valve 22 does not retain fuel in the reservoir while the unit is operating, because it moves away from opening 14 by the action of jet pump 30, and further is not a necessary component for operation. *Id.* at col. 4, l. 39 - col. 5, l. 35.

Prior art fuel starvation prevention systems sent all of the output of a high pressure pump to the engine and used fuel returning from the engine to drive a jet pump that pumped fuel into a reservoir. These systems are known as "return-side" systems. Because the amount of fuel returning from the engine varied in such return-side systems, they were inefficient and unreliable. *Id.* at col. 1, ll. 25-29. The invention of the '714 patent is a "supply-side" system and provides advantages over return-side systems by supplying fuel to the jet pump directly from the high pressure pump. In the system described in the '714 patent, only part of the output from the high pressure pump is routed to the engine, while the other part is routed directly to the jet pump for an

essentially constant supply of fuel to the jet pump that does not vary with engine demand. *Id.* at col. 2, ll. 3-8.

Independent claim 2 is at issue in this appeal, and recites:

> 2. Apparatus for pumping fuel from a fuel tank to an engine comprising:
>
> (a) a supply port for carrying fuel from the apparatus to the engine;
>
> (b) a fuel reservoir which includes an opening for connecting the interior of the reservoir to the interior of the fuel tank;
>
> (c) means for mounting the reservoir in the fuel tank so as to locate the opening of the reservoir in the region of the bottom of the fuel tank;
>
> (d) pumping means for pumping fuel into the reservoir, said means being located within the reservoir in the region of the opening and including a nozzle and a venturi tube in alignment with the nozzle, the passage of fuel out of the nozzle and through the venturi tube causing fuel to be entrained through the opening into the interior of the reservoir;
>
> (e) a high pressure pump having an inlet connected to the interior of the reservoir and an output of high pressure fuel;
>
> (f) and means for routing a first portion of the output of high pressure fuel to the supply port and a second portion of the

> output of high pressure fuel to the pumping means whereby fuel is delivered to the engine from the reservoir through the supply port and fuel is entrained into the reservoir by means of the fuel passing through the pumping means.

Claims 7 and 8, dependent from claim 2, are also at issue. Claim 7 adds a baffle that separates the pumping means outlet from the inlet to the high pressure pump. Claim 8 requires the opening to be located at the bottom of the reservoir, and further, recites an arrangement where the flow of fuel in the reservoir exceeds the flow of fuel to the engine, creating a net flow of fuel from the bottom to the top of the reservoir.

B. The VDO Device

The accused VDO device is a single unit, supply-side jet pump assembly. During operation, fuel travels from an output on one side of the electric pump, through a jet tube, and to a jet pump comprising a nozzle and a mixing tube. Fuel from a second output on the other side of the electric pump travels to the engine. The mixing tube mixes fuel entrained from the fuel tank with the fuel being sprayed out of the nozzle. Fuel traveling through the mixing tube forces a valve open so that fuel from the jet pump is pushed into the reservoir, and keeps fuel above it from leaking out of the reservoir and back into the fuel tank where it would not be available to be pumped to the engine.

C. Procedural History

TI Group sent written notice of suspected infringement of the '714 patent to both VDO and General Motors. On April

25, 2000, VDO filed a declaratory judgment action against TI Group concerning VDO's alleged infringement of the '714 patent, seeking findings of both non-infringement and invalidity. The parties were subsequently realigned, and TI Group asserted independent claim 2 and dependent claims 7 and 8 against the defendants. TI Group also alleged that VDO's infringement was willful. Upon realignment, VDO's invalidity assertions became essentially a counterclaim.

The district court held a *Markman* hearing on November 6, 2001, and rendered its claim construction opinion on December 3, 2001. *TI Group Auto. Sys., (N. Am.), Inc. v. VDO N. Am., L.L.C.*, 2001 U.S. Dist. LEXIS 19971, No. 00-432-GMS (D. Del. Dec. 3, 2001) ("*Markman Order*"). TI Group timely filed for reconsideration of the claim constructions, but the request was denied.

A jury trial was held between June 3 and June 11, 2002. During the course of trial, VDO moved for judgment as a matter of law, at the appropriate times, on both non-infringement and invalidity grounds under Rule 50 of the Federal Rules of Civil Procedure. The court reserved judgment on these motions. On June 12, 2002, the jury returned a verdict finding that: (1) VDO infringed each of claims 2, 7, and 8, both literally and under the doctrine of equivalents; (2) claims 2, 7, and 8 were not invalid; (3) VDO's infringement was willful; (4) certain accused fuel pump assemblies were not covered by license; (5) TI Group is not entitled to lost profit damages; and (6) TI Group is entitled to compensatory damages in the form of a reasonable royalty of 5%, or $10,773,492.

Both parties then filed post-trial motions. VDO renewed its JMOL motions, or in the alternative, requested a new trial under Rule 59 of the Federal Rules of Civil Procedure. TI

Group filed motions seeking: (1) prejudgment and post-judgment interest; (2) to alter or amend the judgment; (3) injunctive relief; and (4) enhanced damages, attorneys' fees, and expenses. The district court granted VDO's JMOL motion for non-infringement, concluding that no reasonable juror could have found the '714 patent infringed. *JMOL Infringement Opinion* at 17-18. Based on its finding of non-infringement, the court specifically declined to address VDO's arguments that the '714 patent was invalid, that the infringement was not willful, and that VDO had a license to produce certain fuel assemblies. *Id.* at 18 n.7. The district court also concluded that all of TI Group's post-trial motions were moot. *Id.* at 18.

TI Group filed a timely appeal with this court, asserting errors in both the district court's claim constructions and its grant of VDO's JMOL motion of non-infringement. Because the district court did not resolve VDO's JMOL motion on invalidity, leaving open VDO's counterclaim, this court determined that it lacked jurisdiction over the appeal. *TI Group Auto. Sys., (N. Am.), Inc. v. VDO N. Am., L.L.C.*, 66 Fed. Appx. 868, No. 02-1630 (Fed. Cir. May 13, 2003) ("*Dismissal Order*"); *see also* 28 U.S.C. § 1295(a)(1) (2000) (giving this court jurisdiction over an "appeal from a *final* decision of a district court of the United States" if that court's jurisdiction was based, in whole or in part, on 28 U.S.C. § 1338 (emphasis added)); *Cunningham v. Hamilton County, Ohio*, 527 U.S. 198, 204, 119 S. Ct. 1915, 144 L. Ed. 2d 184 (1999) (defining a final judgment as one that "ends the litigation on the merits and leaves nothing for the court to do but execute judgment"). The district court then entertained VDO's invalidity counterclaim and issued a second opinion, denying VDO's JMOL motion on invalidity. *JMOL Invalidity Opinion*. TI Group moved for reinstatement of the appeal, in accordance with our *Dismissal Order*, and filed a renewed

notice of appeal. VDO filed a notice of cross-appeal from the district court's JMOL decision on invalidity, docketed in this court as 03-1482. We reinstated TI Group's appeal, Docket No. 02-1630, pursuant to our *Dismissal Order*, and consolidated it with VDO's appeal, Docket No. 03-1482. *TI Group Auto. Sys., (N. Am.), Inc. v. VDO N. Am., L.L.C.*, 70 Fed. Appx. 580, No. 03-1482 (Fed. Cir. July 15, 2003). This court opinion addresses both appeals. We now have jurisdiction under 28 U.S.C. § 1295(a)(1).

ANALYSIS

A. Standard of Review

The grant or denial of a JMOL motion is a procedural issue not unique to patent law, reviewed under the law of the regional circuit in which the appeal from the district court would usually lie. *Riverwood Int'l Corp. v. R.A. Jones & Co., Inc.*, 324 F.3d 1346, 1352 (Fed. Cir. 2003); *BBA Nonwovens Simpsonville, Inc. v. Superior Nonwovens, LLC*, 303 F.3d 1332, 1336 (Fed. Cir. 2002). JMOL is appropriate when "there is no legally sufficient evidentiary basis for a reasonable jury to find for that party on that issue." Fed. R. Civ. P. 50(a)(1); *see also Blanche Rd. Corp. v. Bensalem Twp.*, 57 F.3d 253, 262 (3d Cir. 1995). "Judgment as a matter of law should be granted sparingly." *Johnson v. Campbell*, 332 F.3d 199, 204 (3d Cir. 2003). However, it is appropriate where "the record is critically deficient of the minimum quantum of evidence" in support of the verdict. *Gomez v. Allegheny Health Servs., Inc.*, 71 F.3d 1079, 1083 (3d Cir. 1995). "The question is not whether there is literally no evidence supporting the unsuccessful party, but whether there is evidence upon which a reasonable jury could have found its verdict." *Id.*

Claim construction is a matter of law that we review de novo. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996); *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc). A determination of infringement, both literal and under the doctrine of equivalents, is a question of fact, reviewed for substantial evidence when tried to a jury. *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1323 (Fed. Cir. 2001). An invalidity determination based on anticipation is a question of fact, and is reviewed following a jury verdict for substantial evidence. *Id.* As to obviousness, "[t]his court reviews a jury's conclusions on obviousness, a question of law, without deference, and the underlying findings of fact, whether explicit or implicit within the verdict, for substantial evidence." *LNP Eng'g Plastics, Inc. v. Miller Waste Mills, Inc.*, 275 F.3d 1347, 1353 (Fed. Cir. 2001).

B. Claim Construction

The claim construction analysis begins with the words of the claim. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Absent an express intent to impart a novel meaning to a claim term, the words take on the ordinary and customary meaning attributed to them by those of ordinary skill in the art. *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298 (Fed. Cir. 2003). To determine the ordinary and customary meaning of a claim term, we may review sources including the claims themselves, *see Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357 (Fed. Cir. 1999); dictionaries and treatises, *Tex. Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202 (Fed. Cir. 2002); and the written description, drawings, and prosecution history, *see, e.g., DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1324 (Fed. Cir. 2001).

TI Group argues that the district court erred in construing several of the claim terms at issue in the asserted claims. Specifically, TI Group alleges that each of the claim terms on appeal was given a narrow definition, when in fact, TI Group should have been afforded a broad construction based on the ordinary and customary meaning of the term, as supported by the written description of the '714 patent. VDO argues that the district court correctly construed each of the terms at issue and that TI Group is not entitled to the broad definitions for which it argues. We address each of the disputed claim constructions, agreeing with the district court's determinations of some and disagreeing with others.

1. Fuel Reservoir

TI Group first argues that the district court's construction of the term "fuel reservoir" is too narrow and is not consistent with the written description of the patent. In particular, the district court construed the term to mean "the portion of the apparatus for pumping fuel in which fuel is collected and retained apart from fuel in the fuel tank." *Markman Order* at 1. TI Group argues that this definition unnecessarily imports the limitation of retaining fuel apart from the fuel in the fuel tank and is inconsistent with both the term's ordinary and customary meaning and the term's usage in the written description. Instead, TI Group urges that we adopt the broadest dictionary definition as the ordinary and customary meaning of the term "reservoir"–"any receptacle for fluids." 13 *The Oxford English Dictionary* 703-04 (2d ed. 1989). VDO argues, in response, that the correct construction of "reservoir" is one of the more narrow definitions provided in the dictionary: "a part of some apparatus in which fluid or liquid is contained," *id.*, or "a part of an apparatus in which a liquid is held," *Webster's Third New International Dictionary* 1931 (1986) ("*Webster's*").

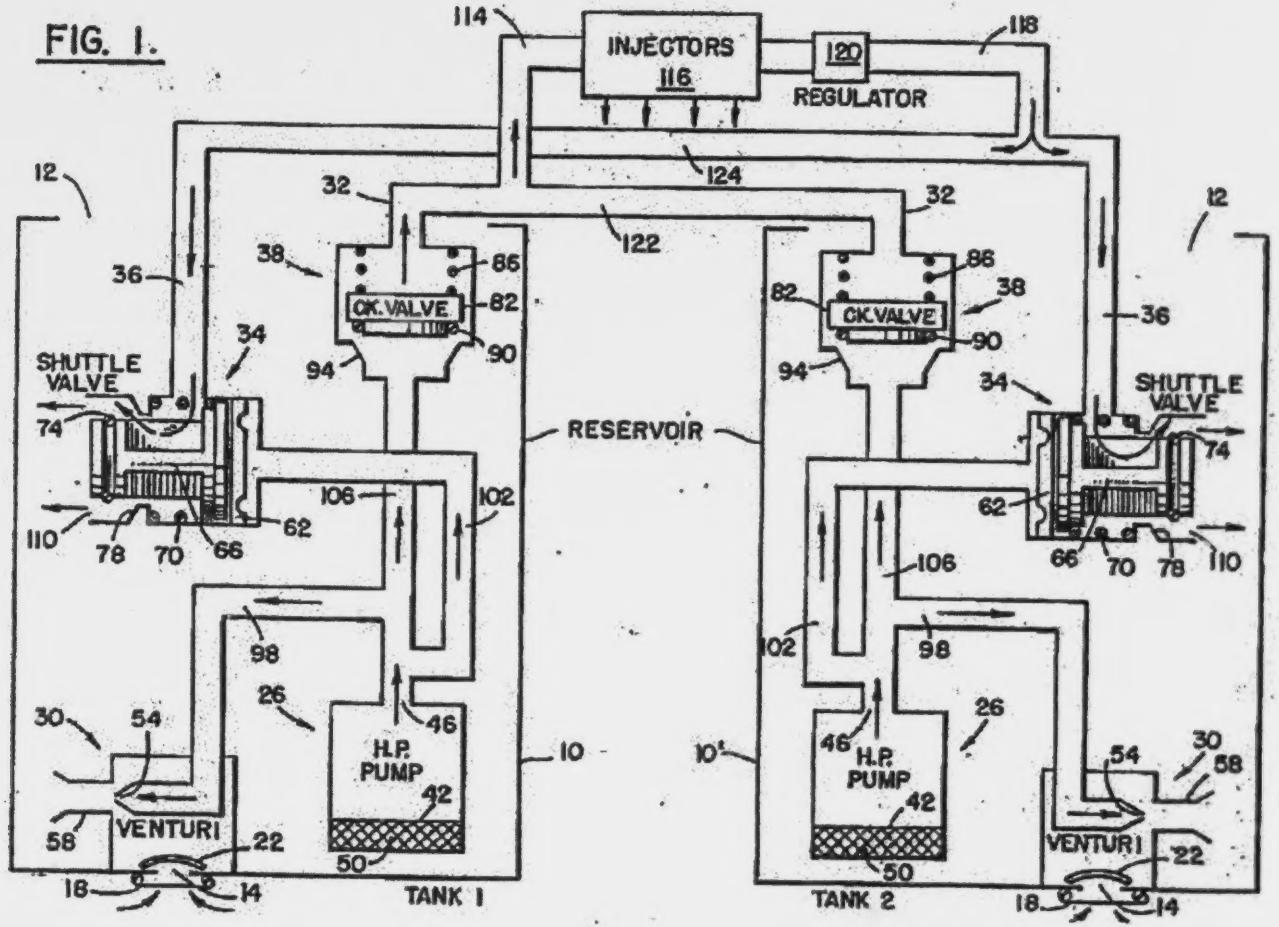
The dictionary entries for "reservoir" in both *The Oxford English Dictionary* and *Webster's* have several definitions that are facially relevant to the claimed invention. Each of the definitions implicates some sort of containment of liquid. Even the definition urged by TI Group, *i.e.*, "any receptacle for fluids," requires that the fluid be retained apart or contained. *See* 13 *The Oxford English Dictionary* 320 (2d ed. 1989) (defining "receptacle" as "that which receives and *holds* a thing; . . . a *containing* vessel, place, or space" (emphases added)). Thus, TI Group's argument that the district court's construction is unduly narrow is not persuasive. The notion of retaining or containing liquid in the receptacle is a common theme in each of the dictionary definitions. As the district court correctly observed, in the context of this invention, the fuel in the reservoir is contained, or held apart, from the fuel in the fuel tank.

The written description fully supports the ordinary meaning of the term "reservoir" identified by the district court, and there is no indication that TI Group disclaimed or disavowed meaning or acted as its own lexicographer in giving the term another meaning. We therefore affirm the district court's definition of the term "reservoir" as meaning "the portion of the apparatus for pumping fuel in which fuel is collected and retained apart from fuel in the fuel tank."

2. Pumping Means

TI Group next argues that the district court erroneously construed the term "pumping means" as a means-plus-function limitation under 35 U.S.C. § 112, paragraph 6, resulting in a more narrow definition than called for by the written description. TI Group argues that the district court should not have analyzed the limitation under § 112, paragraph 6, because the limitation specified any necessary

FIG. 1.


114
INJECTORS
116
120
REGULATOR
118
124
122
12
32
38
36
86
82
CK. VALVE
90
94
34
SHUTTLE VALVE
74
RESERVOIR
106
102
62
110
78
70
66
98
26
46
H.P. PUMP
42
50
30
54
58
VENTURI
22
18
14
10
TANK 1
10'
TANK 2

structure required. *See Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 530-31 (Fed. Cir. 1996) (noting that, in order to invoke § 112, paragraph 6, "the alleged means-plus-function claim element must not recite a definite structure which performs the described function"). VDO argues that the phrase "pumping means" clearly gives rise to a presumption that § 112, paragraph 6 applies and that TI Group has not rebutted the presumption, because the structure recited does not perform the stated function.

The claim limitation at issue recites not only a pumping means, but its structure ("including a nozzle and a venturi tube in alignment with the nozzle"), location ("being located within the reservoir in the region of the opening"), and operation ("the passage of fuel out of the nozzle and through the venturi tube causing fuel to be entrained through the opening into the interior of the reservoir"). While the use of the word "means" gives rise to a presumption that § 112, paragraph 6 applies, the presumption is overcome by the recitation of the structure needed to perform the recited function. The written description informs and fully supports the structure recited in the claims: "Jet pump 30 includes nozzle 54 and venturi tube 58." '714 patent, col. 4, ll. 61-66.

The district court's construction, urged before this court by VDO, concludes that the pumping means must also include check valve 22, connecting tube 164, and jet block 144. *Markman Order* at 2. This construction, however, includes elements that are not necessary for performing the recited function. There is no indication in the patent that the function found by the district court, namely "to pump fuel into the reservoir," *id.* at 1, requires anything other than the structure recited in the claim. Therefore, the proper construction of the "pumping means" limitation in claim 2 is "a pump including a nozzle and a venturi tube in alignment with the nozzle."

In light of our conclusion that § 112, paragraph 6, is not invoked, we need not, and do not, address TI Group's alternative arguments about structure corresponding to "pumping means," including its arguments regarding check valve 22 and connecting tube 164.

3. Within

TI Group next argues that the district court's definition of the term "within" is also unnecessarily narrow. The district court construed "within" to mean that "the pumping means components are located inside the reservoir." *Markman Order* at 2. TI Group argues that this construction is more narrow than the ordinary and customary meaning of the term "within," and is not consistent with the written description. VDO argues that the narrower construction is appropriate in light of the dictionary definitions and written description.

Again, both parties offer competing dictionary definitions in support of their argument. TI Group urges us to adopt the definition "in the limits of, not outside or beyond," 20 *The Oxford English Dictionary* 456-58 (2d ed. 1989), or "in the limits or compass of; not beyond," *Webster's* at 2627. VDO points instead to the definitions reciting "in the inner part or interior of," 20 *The Oxford English Dictionary* 456-58 (2d ed. 1989), or "on the inside or on the inner side," *Webster's* at 2627. Because all of the offered definitions are facially relevant, we rely on the written description to "point away from the improper meanings and toward the proper meanings." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. Sept. 16, 1998).

TI Group argues that the written description does not require the pumping means to be located within the reservoir, and further argues that, if the patentee had wished to draw

such a distinction, the language for doing so was available. TI Group argues that because the patentee used the allegedly broader term "within," rather than "inside" or "on the interior," the full breadth should be afforded to the scope of the limitation. VDO argues in response: (1) that the structures illustrated in the drawings of the written description show the pumping means located inside of the reservoir; (2) that TI Group's argument "ignores the primary (and most relevant) definition of 'within'"; and (3) that statements made by TI Group during prosecution of a Japanese counterpart application confirm that the patentee intended "within" to mean "inside."

With respect to VDO's first argument, regarding the drawings being limited to the construction it urges, we have held that "the mere fact that the patent drawings depict a particular embodiment of the patent does not operate to limit the claims to that specific configuration." *Anchor Wall Sys. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298, 1306-07 (Fed. Cir. 2003) (citing *Hockerson-Halberstadt, Inc. v. Avia Group Int'l, Inc.*, 222 F.3d 951, 956 (Fed. Cir. 2000)). The drawings, without more, are insufficient to cabin the scope of the ordinary and customary meaning of the term "within" in this case. As to VDO's second argument, regarding the "primary definition" of "within," we again reiterate that a patentee is entitled to a definition that encompasses *all* consistent meanings. *Brookhill-Wilk* 1, LLC, 334 F.3d at 1300. Finally, with respect to VDO's argument regarding statements made during foreign prosecution, we decline to comment, given our conclusion below, and note only that "the varying legal and procedural requirements for obtaining patent protection in foreign countries might render consideration of certain types of representations inappropriate" for consideration in a claim construction analysis of a United

States counterpart. *Caterpillar Tractor Co. v. Berco, S.p.A.*, 714 F.2d 1110, 1116 (Fed. Cir. 1983).

Although VDO's arguments in favor of the district court's construction are not persuasive, we nonetheless conclude that the district court's construction of "within" was correct because the dictionary definitions TI Group urges us to adopt are not so different from those urged by VDO and adopted by the district court. TI Group's definition is "within the limits of, not outside or beyond." VDO's definition is "on the inside." Certainly, in ordinary and customary usage, what is not outside is on the inside. Thus, we affirm the district court's construction of the term "within" as meaning "inside."

4. Routing Means

TI Group argues that the district court made two errors in construing the claim limitation "means for routing a first portion of the output of high pressure fuel to the supply port and a second portion of the output of high pressure fuel to the pumping means," also referred to as the "routing means limitation." The district court construed this limitation by first determining that the function is "to route the fuel to jet pump 30 and through check valve 38 to the injectors." *Markman Order* at 2. The district court then determined that the structure that performed this function encompasses "main housing 140, check valve 38, supply nozzle 134, and the associated structure leading to jet pump 30." *Id.* TI Group asserts the district court erred by considering only one preferred embodiment when determining the scope of the term. TI Group contends that the district court's construction of "routing means" considered only the embodiment of Figures 2-9 and disregarded the embodiment shown in Figure 1, particularly the structure for routing fuel consisting of

supply lines 98 and 106. *See* '714 patent, col. 5, ll. 23-26; *id.* at Fig. 1. TI Group also contends that the district court included unnecessary structure in its construction of the routing means limitation. In particular, TI Group asserts that the inclusion of check valve 38 as part of the structure for the routing means was an error, because the check valve hinders the flow of fuel instead of routing it. VDO counters that Figure 1 is not an appropriate embodiment to consider when analyzing the structure that performs routing, because it is merely a schematic diagram. VDO also argues that the additional structures included by the district court in its determination of the structure of the "routing means" are required by the written description. Finally, VDO argues that TI Group's argument that check valve 38 does not "route" is incorrect.

Neither party disputes that "routing means" is a means-plus-function limitation, subject to interpretation under § 112, paragraph 6. Further, neither party disputes the district court's correct conclusion that the function of the "routing means" is "to route the fuel to jet pump 30 and through check valve 38 to the injectors." *Markman Order* at 2. The sole dispute is over the structure corresponding to this function. TI Group correctly notes that, generally, "when multiple embodiments in the specification correspond to the claimed function, proper application of § 112, [paragraph 6] reads the claim element to embrace each of those embodiments." *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999) (citing *Serrano v. Telular Corp.*, 111 F.3d 1578, 1583 (Fed. Cir. 1997)). Although VDO attempts to argue that Figure 1 is not a separate embodiment but is instead a schematic representation of the same embodiment illustrated in Figures 2-9, it fails to find support for that position in the written description. According to the patent, Figure 1 is a schematic diagram representing the disclosed

invention, *see* '714 patent, col. 4, ll. 29-31, and Figures 2-9 illustrate "a particularly preferred construction" for the invention, *see id.* at col. 6, ll. 62-64. A fair reading of the written description is that Figure 1 is a generalized representation of the invention and that Figures 2-9 depict a specific, and preferred, embodiment. Nothing in the written description indicates otherwise. VDO's other arguments have been carefully considered and are not persuasive. Therefore, we conclude that the structure in the '714 patent corresponding to the "routing means" claim limitation includes, in one embodiment, the main housing 140, the connecting tube 164, the nozzle 134, and the hose 130, and in another representation, lines 98 and 106.

5. Opening for Connecting

TI Group next contends that the district court's definition of the term "an opening for connecting the interior of the reservoir to the interior of the fuel tank" is unduly narrow. The district court concluded that the phrase means "an aperture disposed adjacent to both the interior of the reservoir and the interior of the fuel tank, allowing fuel from the fuel tank to be entrained directly into the reservoir." *Markman Order* at 2. TI Group argues that this construction simply ignores the ordinary and customary meanings of the words and is inconsistent with the written description. VDO contends that the district court's construction is proper, based on the meanings of the terms and based on the notion that without the additional requirements, the claim limitation would be meaningless. We agree with TI Group.

The parties do not disagree about the general meanings of the terms at issue. An "opening" is "a gap, hole, or passage; an aperture." 10 *The Oxford English Dictionary* 845 (2d ed. 1989). To "connect" is "to join, fasten, or link together

usually by means of something intervening." *Webster*'s at 480. Thus, the ordinary and customary meaning of the limitation requires only that there be a hole, passage, or aperture for joining or linking the interior of the reservoir to the exterior of the reservoir. Nothing in the ordinary and customary meaning of the term, nor in the written description, requires that the aperture be "disposed adjacent to both the interior of the reservoir and the interior of the fuel tank." VDO's other arguments have no merit. The correct construction of "an opening for connecting the interior of the reservoir to the interior of the fuel tank" requires only that the interior of the reservoir and the interior of the fuel tank be joined or linked by a hole, passage, or aperture.

6. Opening at the Bottom

Finally, TI Group argues that dependent claim 8, reciting that the opening for connecting, defined above, is "at the bottom of the reservoir" was construed too narrowly by the district court. The district court determined that the opening must be "in the bottom surface of the reservoir." *Markman Order* at 2. TI Group argues that this construction is more narrow than the ordinary and customary meaning of the term "bottom" and is inconsistent with the written description. VDO counters that the district court's construction is consistent with every drawing in the patent. As we have already discussed, the fact that the drawings are limited to a particular embodiment does not similarly limit the scope of the claims. *Anchor*, 340 F.3d at 1306-07. Rather, TI Group is entitled to the full breadth of claim scope supported by the words of the claims and the written description. VDO's argument again focuses on a single, narrow dictionary definition, when many equally apt, and broader, definitions are also provided. The written description does not restrict the ordinary and customary meaning of "bottom" in any respect.

Therefore, we conclude that the "bottom" of the reservoir means "the lower or lowest part," *Webster's* at 259, of the reservoir, and is not restricted only to the bottom surface thereof.

C. JMOL Grant on Non-Infringement

Having addressed TI Group's claim construction arguments, we now turn to its contention that the district court's JMOL of non-infringement was improperly granted. "When we determine on appeal, as a matter of law, that a trial judge has misinterpreted a patent claim, we independently construe the claim to determine its correct meaning, and then determine if the facts presented at trial can support the appealed judgment." *Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1560 (Fed. Cir. 1995). Infringement requires the patentee to show that the accused device contains or performs each limitation of the asserted claims, *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1211 (Fed. Cir. 1998), or an equivalent of each limitation not satisfied literally, *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 117 S. Ct. 1040, 137 L. Ed. 2d 146 (1997). Although the jury found infringement under the district court's claim constructions, the district court determined that no reasonable juror could have concluded that VDO's device infringed. We have affirmed the district court's claim constructions with respect to the terms "reservoir" and "within." Rather than citing specific evidence of record to support the jury's verdict of infringement, TI Group largely rests its arguments in favor of reversing the district court's grant of JMOL on the district court's claim construction errors.

Claim 2 refers to "an opening for connecting the interior of the reservoir to the interior of the fuel tank." The pumping

means is then characterized as "causing fuel to be entrained through the opening into the interior of the reservoir," and is described as being "located within the reservoir in the region of the opening." Claim 8 then describes fuel that "enters the reservoir through the opening." From the use of these phrases in the patent, it is fair to infer that the opening separates the reservoir from the fuel tank and that in order to be "within the reservoir," the pumping means must be inboard of the opening–i.e., it must be on the reservoir side of the opening that divides the fuel tank from the reservoir. As the district court pointed out, the pumping means in VDO's accused device is outboard of the opening–i.e., it is on the fuel tank side of the opening that divides the fuel tank from the reservoir. It is therefore not "located within the reservoir" as that term is used in the patent. Because a finding of infringement requires that all limitations be found in the accused device, we affirm the district court's determination that no reasonable juror could have concluded that VDO's device infringed. Thus, we affirm the judgment of non-infringement in favor of VDO.

D. JMOL Denial on Invalidity

On cross-appeal, VDO argues that the district court erred in denying its motion for JMOL of invalidity based on obviousness and in upholding the jury's verdict that the '714 patent is not invalid. *JMOL Invalidity Opinion* at 3-4. In particular, VDO argues that if TI Group's claim constructions are adopted, the '714 patent is anticipated by at least U.S. Patent No. 2,953,156 and German Patent Application No. 2 849 461 A1, neither of which was before the U.S. Patent and Trademark Office during the prosecution of the '714 patent. TI Group argues in response that substantial evidence in the record supports the jury's verdict finding the '714 patent not invalid, that VDO has not rebutted this evidence, and that

VDO failed to present a case of obviousness before the district court.

Our validity analysis is a two-step procedure: "The first step involves the proper interpretation of the claims. The second step involves determining whether the limitations of the claims as properly interpreted are met by the prior art." *Beachcombers, Int'l, Inc. v. WildeWood Creative Prods., Inc.*, 31 F.3d 1154, 1160 (Fed. Cir. 1994). We have determined the proper interpretation of the claims, *see* Section B, *supra*, thus leaving for review whether a reasonable juror, in performing the second step of the analysis, could have found less than clear and convincing evidence of invalidity under the new claim constructions. Because the jury could only have compared the prior art to the erroneously narrowly construed claims, we vacate the district court's *JMOL Invalidity Opinion* and remand the invalidity question to the district court for further proceedings consistent with this opinion.

CONCLUSION

Because we affirm some of the district court's claim constructions, and because as to those limitations TI Group points to no evidence supporting the jury's finding of infringement, we affirm the district court's grant of VDO's JMOL motion with respect to infringement. However, because we have broadened a number of the district court's claim constructions, thus affecting the invalidity analysis, we vacate the district court's denial of VDO's JMOL motion with respect to invalidity and remand that issue for further proceedings consistent with this opinion.

AFFIRMED-IN-PART, VACATED-IN-PART, AND REMANDED

COSTS

No costs.

APPENDIX C

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

C.A. No. 00-432-GMS

[Decided June 6, 2003]

TI GROUP AUTOMOTIVE SYSTEMS, (NORTH AMERICA), INC.,
Plaintiff,

v.

VDO NORTH AMERICA L.L.C. et al.,
Defendants.

JUDGES: Gregory M. Sleet, UNITED STATES DISTRICT JUDGE.

MEMORANDUM AND ORDER

I. INTRODUCTION[1]

This action began as a declaratory judgment action initiated by VDO North America, L.L.C., on April 25, 2000 against TI Group Automotive Systems, NA, Inc. ("TI"). The action concerned VDO's alleged infringement of U.S. Patent No. 4,860,714 ("the '714 patent"), which relates to fuel pump assembly technology. The parties were realigned on March 7, 2001, thus making TI the plaintiff.

Following a jury trial, the jury returned a verdict finding that (1) VDO infringed each of Claims 2, 7, and 8, both literally and under the doctrine of equivalents; (2) Claims 2, 7, and 8 are not invalid; (3) VDO's infringement was willful; (4) the accused Saturn LS-18 fuel pump assemblies are not covered by a license; (5) TI is not entitled to lost profits damages with respect to any of the three accused platforms; and (6) TI is entitled to compensatory damages in the form of a reasonable royalty of 5%, or a total of $10,773,492. The court granted VDO's renewed motion for judgment as a matter of law on the issue of infringement on September 4, 2002. Because it found that VDO's accused device did not infringe the patents-in-suit, the court declined to reach VDO's renewed motion for judgment as a matter of law on its invalidity counterclaim. TI filed a timely appeal of this decision on September 18, 2002.

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[1] For a complete recitation of this action's procedural history, please *see TI Group Automotive Systems (USA), L.L.C., v. VDO N.A., L.L.C. et al.*, 2002 U.S. Dist. LEXIS 17783 (D. Del. Sept. 4, 2002).

On May 16, 2003, the United States Court of Appeals for the Federal Circuit dismissed the appeal for lack of jurisdiction "because VDO's invalidity counterclaim remains unresolved." While the parties disagree over whether VDO has waived this issue, the court concludes that a fair reading of the Federal Circuit's order mandates that, in the interest of efficiency, the court entertain VDO's counterclaim at this time.

II. STANDARD OF REVIEW

Under Rule 50 of the Federal Rules of Civil Procedure, a court should grant a motion for judgment as a matter of law only where "there is no legally sufficient basis for a jury to find for [the non-moving] party." Fed. R. Civ. P. 50. Thus, in order to prevail on a renewed motion for JMOL following a jury trial, the moving party "'must show that the jury's findings, presumed or express, are not supported by substantial evidence or, if they were, that the legal conclusions implied [by] the jury's verdict cannot in law be supported by those findings.'" *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1348 (Fed. Cir. 1998) (quoting *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893 (Fed. Cir. 1984). In order to determine whether a legally sufficient basis in fact exists, the trial court must consider all the evidence in a light most favorable to the non-movant, must draw reasonable inferences favorable to the non-movant, must not determine the credibility of witnesses, and must not substitute its choice for that of the jury. *See Odetics, Inc. v. Storage Tech. Corp.*, 185 F.3d 1259, 1269 (Fed. Cir. 1999) (citations omitted). If, after this analysis, substantial evidence exists to support the jury's verdict, then the motion for JMOL must be denied. *See id.*

The essential question in deciding a motion for judgment as a matter of law is whether the evidence the jury could have believed in reaching its verdict was substantial enough to support its findings. *See Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1573 (Fed. Cir. 1986). Thus, the question is not what the court might have believed, but what the jury could have reasonably determined. *See Dawn Equip. Co. v. Kentucky Farms, Inc.*, 140 F.3d 1009, 1014 (Fed. Cir. 1998) ("the inquiry is whether a reasonable jury, given the record before it viewed as a whole, could have arrived at the conclusion it did.").

III. DISCUSSION

As VDO bore the burden of proof on its invalidity counterclaim, it is not entitled to judgment as a matter of law unless: (1) it established its case with evidence that no reasonable jury could believe, and (2) the only reasonable conclusion is in VDO's favor. *See e.g. LNP Eng'g Plastics, Inc. v. Miller Waste Mills, Inc.*, 77 F. Supp. 2d 514, 547 (D. Del. 1999) *aff'd in part, rev'd in part on other grounds*, 275 F.3d 1347 (Fed. Cir. 2001). For the following reasons, the court concludes that the jury's verdict was reasonable.

During the trial, VDO suggested that the German '461 reference could be combined with the '156 patent to render the '714 patent claims obvious. In response, TI introduced evidence that the prior art actually teaches away from a combination of the '156 patent and the '461 patent. Specifically, TI presented testimony that, in the '156 patent, the jet pump must be located outside the reservoir in order to ensure a supply of fuel in the reservoir under all operating conditions of the helicopter. *See* Tr. 456-7. This design teaches away from any combination that would put the '156 jet pump closer to the reservoir, or inside it.

Additionally, TI adduced evidence that the technical board which decided against VDO during the European opposition concluded that:

> (1) the fuel system of the German '461 reference is "basically different" from that of the '714 patent;
>
> (2) "a person skilled in the art could not find in [U.S. Patent No. 4,503,885] a hint towards the claimed solution and [the German '461 reference] could not help either;"
>
> (3) "[the German '461 reference] only discloses the use of a simple return line for supplying fuel to the jet pump;" and
>
> (4) The '156 patent apparatus is also "basically different" from the '714 patent apparatus "as well as from the systems of [U.S. Patent No. 4,503,885] and [the German '461 reference]."

Decision of the Technical Board of Appeal (DX 327) at pg. 12-13.

In light of this evidence, the court concludes that a reasonable jury could have found against VDO on its invalidity claim.

IV. CONCLUSION

1. VDO's Renewed Motion for Judgment as a Matter of Law (D.I. 261) is DENIED as to invalidity.

Dated: June 6, 2003

/s/_____
Gregory M. Sleet
UNITED STATES DISTRICT JUDGE

APPENDIX D

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

C.A. No. 00-432-GMS

[Decided September 4, 2002]

TI GROUP AUTOMOTIVE SYSTEMS, (NORTH AMERICA), INC., Plaintiff,

v.

VDO NORTH AMERICA L.L.C. et al., Defendants.

JUDGES: SLEET, District Judge.

MEMORANDUM OPINION

September 4, 2002
Wilmington, Delaware

SLEET, District Judge

I. INTRODUCTION

This action began as a declaratory judgment action initiated by VDO North America, L.L.C., on April 25, 2000 against TI Group Automotive Systems, NA, Inc. ("TI"). The action concerned VDO's alleged infringement of U.S. Patent No. 4,860,714 ("the '714 patent"), which relates to fuel pump assembly technology. The parties were realigned on March 7, 2001, thus making TI the plaintiff.

The court held a *Markman* hearing on November 6, 2001 and rendered its claim construction decision on December 3, 2001. On December 17, 2001, TI filed a motion for reconsideration of the claim construction. The court denied this request. Based on the court's claim construction, VDO sought leave to file a motion for summary judgment on non-infringement. Because the dispositive motion deadline had already passed, the court denied this request on February 6, 2002.

A jury trial was held between June 3 and June 11, 2002. During the course of the trial, VDO moved for judgment as a matter of law pursuant to Rule 50 of the Federal Rules of Civil Procedure at the close of TI's case-in-chief and again at the close of all evidence. The court reserved judgment on these motions. On June 12, 2002, the jury returned a verdict finding that (1) VDO infringed each of Claims 2, 7, and 8, both literally and under the doctrine of equivalents; (2) Claims 2, 7, and 8 are not invalid; (3) VDO's infringement was willful; (4) the accused Saturn LS-18 fuel pump assemblies are not covered by a license; (5) TI is not entitled to lost profits damages with respect to any of the three accused platforms; and (6) TI is entitled to compensatory damages in the form of a reasonable royalty of 5%, or a total of $10,773,492.

Following the jury's verdict, both parties filed post-trial motions. Presently before the court is: (1) VDO's renewed motion for judgment as a matter of law, or alternatively, for a new trial under Rule 59 of the Federal Rules of Civil Procedure; (2) TI's motion for prejudgment and post-judgment interest; (3) TI's motion to alter or amend the judgment, or for other related relief; (4) TI's motion for an injunction; and (5) TI's motion for enhanced damages, attorneys' fees, and expenses. The following is the court's decision on all pending post-trial motions.

II. STANDARD OF REVIEW

Under Rule 50 of the Federal Rules of Civil Procedure, a court should grant a motion for judgment as a matter of law only where "there is no legally sufficient basis for a jury to find for [the non-moving] party." Fed. R. Civ. P. 50. Thus, in order to prevail on a renewed motion for JMOL following a jury trial, the moving party "'must show that the jury's findings, presumed or express, are not supported by substantial evidence or, if they were, that the legal conclusions implied [by] the jury's verdict cannot in law be supported by those findings.'" *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1348 (Fed. Cir. 1998) (quoting *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893 (Fed. Cir. 1984). In order to determine whether a legally sufficient basis in fact exists, the trial court must consider all the evidence in a light most favorable to the non-movant, must draw reasonable inferences favorable to the non-movant, must not determine the credibility of witnesses, and must not substitute its choice for that of the jury. *See Odetics, Inc. v. Storage Tech. Corp.*, 185 F.3d 1259, 1269 (Fed. Cir. 1999) (citations omitted). If, after this analysis, substantial evidence exists to support the jury's verdict, then the motion for JMOL must be denied. *See id.*

The essential question in deciding a motion for judgment as a matter of law is whether the evidence the jury could have believed in reaching its verdict was substantial enough to support its findings. *See Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1573 (Fed. Cir. 1986). Thus, the question is not what the court might have believed, but what the jury could have reasonably determined. *See Dawn Equip. Co. v. Kentucky Farms, Inc.*, 140 F.3d 1009, 1014 (Fed. Cir. 1998) ("the inquiry is whether a reasonable jury, given the record before it viewed as a whole, could have arrived at the conclusion it did.").

III. DISCUSSION

A. VDO's Renewed Motion for Judgment as a Matter of Law

VDO moves the court for judgment as a matter of law to reverse the jury's findings that the accused fuel pump assemblies literally infringe the '714 patent, and also infringe the '714 patent under the doctrine of equivalents. Literal infringement of a claim occurs when every limitation recited in a claim appears in the accused device, *i.e.* when "the properly construed claim reads on the accused device exactly." *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1358 (Fed. Cir. 2000). At trial, TI had the burden of proving literal infringement by a preponderance of the evidence. *See Southwall Technologies, Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed. Cir. 1995).

A device that does not literally infringe a claim may nonetheless infringe "if there is equivalence between those elements of the accused product and the claimed elements of the patented invention." *Warner-Jenkins Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21, 117 S. Ct. 1040, 137 L. Ed. 2d

146 (1997). Infringement under the doctrine of equivalents must be established on a limitation-by-limitation basis. *See id.* at 29 (stating that, "the doctrine of equivalents must be applied to the individual elements of the claim, not to the invention as a whole."). Moreover, the court is mindful that it must take a "special vigilance against allowing the concept of equivalents to eliminate completely" the individual elements of the patented invention. *Id.* at 40.

An element of an accused device is equivalent to an element of the patented invention if the differences between them are insubstantial. *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. at 39; *Zelinski v. Brunswick Corp.*, 185 F.3d 1311, 1316-17 (Fed. Cir. 1999); *Dawn Equip. Co. v. Kentucky Farms Inc.*, 140 F.3d 1009, 1014 (Fed. Cir. 1998). Alternatively, the accused product infringes under the doctrine of equivalents if the element in the accused device performs substantially the same function in substantially the same way to obtain the same result as the claim limitation. *See Warner-Jenkinson*, 520 U.S. at 39; *Zelinski v. Brunswick Corp.*, 185 F.3d at 1316-17; *Dawn Equip. Co. v. Kentucky Farms Inc.*, 140 F.3d at 1016. Whether the former, the "insubstantial differences" test, or the latter, the "triple identity" test is applied, the essential inquiry remains the same: "does the accused product or process contain elements identical or equivalent to each claimed element of the patented invention?" *Warner-Jenkinson*, 520 U.S. at 40.

A determination of infringement under the doctrine of equivalents is a factual matter normally reserved for a fact finder. *Sage Products, Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1423 (Fed. Cir. 1997). Although infringement under the doctrine of equivalents is generally considered a question of fact, that does not in and of itself preclude directing judgment in favor of the accused infringer. There is a triable

issue of fact only if the evidence is such that a reasonable jury could resolve the question in favor of the patentee. *Dawn Equip. Co. v. Kentucky Farms Inc.*, 140 F.3d at 1017 (reversing district court and granting judgment for defendant where devices were not substantially the same) (citing *Warner-Jenkinson,* 520 U.S. 17, 39, n.8, 117 S. Ct. 1040, 137 L. Ed. 2d 146)). Finally, just as with literal infringement, the patentee must prove by a preponderance of the evidence that each element of the patent, or its substantial equivalent, exists in the accused device. *See Lemelson v. United States,* 752 F.2d 1538, 1551 (Fed. Cir. 1985).

With this legal background in mind, the court will now consider the claims at issue in the '714 patent.

1. Independent Claim 2 of the '714 Patent

Because the parties dispute whether there is substantial evidence to support the jury's verdict that the accused assemblies infringe Claim 2 of the '714 patent, the court will first set forth Claim 2 in its entirety and will then evaluate the evidence with regard to each disputed term. Claim 2 of the '714 patent reads as follows:

Apparatus for pumping fuel from a fuel tank to an engine comprising:

(a) a supply port for carrying fuel from the apparatus to the engine;

(b) a fuel reservoir which includes an opening for connecting the interior of the reservoir to the interior of the fuel tank;

(c) means for mounting the reservoir in the fuel tank so as to locate the opening of the reservoir in the region of the bottom of the fuel tank;

(d) pumping means for pumping fuel into the reservoir, said means being located within the reservoir in the region of the opening and including a nozzle and a venturi tube in alignment with the nozzle, the passage of fuel out of the nozzle and through the venturi tube causing fuel to be entrained through the opening into the interior of the reservoir;

(e) a high pressure pump having an inlet connected the interior of the reservoir and an output of high pressure fuel; and

(f) means for routing a first portion of the output of high pressure fuel to the supply port and a second portion of the output of high pressure fuel to the pumping means whereby fuel is delivered to the engine from the reservoir through the supply port and fuel is entrained into the reservoir by means of the fuel passing through the pumping means.[1]

a. "Fuel Reservoir"

In the asserted claim, the fuel is entrained directly into the reservoir through an aperture disposed adjacent to both the interior of the reservoir and the interior of the fuel tank. The fuel is then kept in the reservoir by way of the "check valve

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[1] Claims 2(a), (c) and (e) are not at issue. Thus, the court will only discuss the disputed portions of Claims 2(b), (d), and (f).

22, which prevents fuel from passing out of the reservoir into the main tank through the ... opening." The court has construed the term "reservoir" in Claim 2 to mean "the portion of the apparatus for pumping fuel in which fuel is collected and retained apart from the fuel in the fuel tank." It further recognized that the reservoir "does not include all things that can house fuel."

At trial, TI's technical expert, Michael Leshner ("Leshner"), testified that the mixing tube of the accused fuel pump assemblies collects and retains fuel apart from the fuel in the fuel tank. *See* Transcript of Trial, ("Tr.") at 1128. Specifically, he opined that this was so because "once [fuel] goes in the opening [the inlet to the mixing tube], since it can't go back, it meets all of the tests for the definition of a reservoir. Once it goes in, it's collected and retained." *Id.* He also testified that, in his opinion, even the tubes leading up to and away from the engine collect and retain fuel, thus making them literally part of the reservoir. *See id.* at 1190-1191.

However, the court has already rejected TI's position. During the *Markman* phase, TI argued that the term "reservoir" should be construed to mean a unit, receptacle, or repository for things or articles. VDO proffered the construction ultimately adopted by the court verbatim. During the *Markman* hearing, TI argued that VDO's construction was too narrow, and that "a broader interpretation of this term is provided by intrinsic evidence." Specifically, TI argued that:

> Defendants' unduly narrow definition implicitly defines the boundaries of the reservoir to include the check valve and no portion of the reservoir outside the check valve. This is true because in Defendants'

> definition the reservoir is not the unit or receptacle itself, but merely the portion that "retains" fuel.

D.I. 84 at 8.

Thus, TI understood that, if the court accepted VDO's construction, the boundaries of the reservoir of Claim 2 could not extend past the check valve. As this would necessarily put the accused mixing tube also outside the reservoir, the tube cannot be part of the reservoir itself. In light of this understanding, it is clear that TI's argument at trial, and in its Answering Brief, are nothing more than arguments about what the term *should* mean, notwithstanding what the court has already said it *does* mean.

To the extent that there was confusion regarding the court's *Markman* ruling at trial, the court directed TI to have its witness testify more consistently with the court's order. Specifically, the court stated that, "[the] definition [of reservoir] being that the can is the thing. The can is--it is not ... the hoses and doodads and all the things that can house fuel that are the reservoir. It's the can." *Id.* at 437-438. There is thus no basis for TI's assertion that the can may be anything that can contain fuel and is attached to the can.

Moreover, no reasonable jury could have found that the accused mixing tube was part of the claimed reservoir because the mixing tube does not collect and retain fuel. TI admits that the fuel is not retained in the mixing tube when the jet pump is not operating and the assembly is subjected to certain conditions, such as when the vehicle is parked on an incline and there is no fuel from the tank in the area of the jet pump. In such situations, any fuel that may have been in the mixing tube leaks back into the fuel tank. TI does, however, contend that: (1) under operating conditions, the accused jet pump

keeps fuel in the mixing tube, and (2) under most non-operating conditions, the mixing tube is submerged in fuel and thus collects and retains fuel. The court will discuss each argument in turn.

TI's principal argument is that the jet pump retains fuel in the mixing tube during operation. According to TI, because the jet pump forces fuel in one direction through the mixing tube, past the check valve, and into what VDO submits is the reservoir, that the mixing tube collects and retains fuel. To bolster this argument, TI asserts that the mixing tube "is not one of the hoses and things that the court specifically excluded from the definition of reservoir." Even assuming, *arguendo,* that the court were to accept this bare statement, TI ignores the fact that Leshner admitted that his opinion that the mixing tube was part of the reservoir was based on the same logic he used to opine that all the hoses leading up to, and away from, the engine are part of the reservoir. *See id.* at 1190-1191. Specifically, Leshner testified that the movement of fuel [through a tube or hose] is the process of collecting and retaining fuel. *See id.* at 1187. Because this logic would necessarily encompass hoses and tubes which the court has already made clear are not part of the reservoir, this basis for concluding that the mixing tube is part of the reservoir is untenable.

TI's second argument, that under most non-operating conditions, "fuel in the mixing tube is bounded by plastic walls on all sides except for the opening," also ignores that "the 'reservoir' does not include all things that can house fuel." Moreover, as VDO recognizes, under non-operating conditions, the mixing tube is essentially "a straw submerged in a cup of liquid." To continue briefly with that analogy, there is nothing keeping the liquid in the straw, and if one lifts the straw out of the cup, or even holds the cup at an angle, the

liquid will leave the straw. Likewise, there is nothing keeping the fuel in the mixing tube. Indeed, during the trial, Leshner himself testified that if one were to lift the assembly out of the fuel tank, any fuel that may have been in the mixing tube would "dribble out" into the fuel tank, while the fuel in the reservoir would stay in the reservoir. *See id.* at 495-496, 1179-1181, 1186-1187. Because there is no dispute that fuel may leak out of the mixing tube and back into the fuel tank, the jury's finding that the mixing tube was part of the reservoir is clearly in contravention of the court's claim construction.

Accordingly, no reasonable jury could have found that the term 'reservoir', as construed by the court, included VDO's mixing tube.

b. "Pumping Means"

The court construed the "pumping means" of Claim 2 as a means-plus-function limitation, requiring a "connecting tube 164, jet pump 30 formed in jet block 144 and associated check valve 22," or the structural equivalent. VDO does not dispute that the accused assemblies have a flapper valve that keeps fuel in the reservoir, like the associated check valve 22. However, VDO maintains that the accused flapper valve is not *associated* with the accused jet pump.

It is clear that both the VDO and the TI systems utilize the action of a jet pump to a certain extent. However, the "pumping means" of Claim 2 must be contained within the reservoir. The action of the jet pump of the "pumping means" entrains fuel *directly* into the reservoir. To keep the fuel in the reservoir, there is an associated check valve 22 in the opening of the reservoir. The associated check valve 22 is lifted during operation of the jet pump because of the low pressure region

created around the opening to the reservoir. The fuel being sprayed out of the jet nozzle simply returns to the reservoir, along with the fuel that has already been entrained into the reservoir. The check valve 22 of the patented fuel pump assembly is associated with the "pumping means" in that it opens and closes by the low pressure region created by the jet pump. Finally, because the "pumping means" is inside the reservoir, that opening allows fuel to be entrained directly into the interior of the reservoir.

In contrast to the fuel pump assembly of Claim 2, the jet pump of the accused fuel pump assemblies is outside of the reservoir. Fuel is entrained into the jet pump's mixing tube. The mixing tube mixes entrained fuel with the fuel being sprayed out of the jet nozzle. It is only then that the pressure of the combined fuel pushes through a flapper valve at the end of the mixing tube, ultimately flowing into the reservoir. There is no check valve at the inlet of the mixing tube, *i.e.*, at the opening by the low pressure region created by the jet pump. Accordingly, no reasonable jury could have found literal infringement of this claim term.

Furthermore, the court concludes that no reasonable jury could have found infringement under the doctrine of equivalents. During the trial, the only evidence TI presented with respect to the differences between the flapper valve and the check valve 22 was the following testimony from Leshner:

> The thing that has been referred to as the flapper valve or the check valve or the one-way valve, it's the corresponding structure to check valve 22 in the patent. It closes when the pump is off. It opens when the pump is turned on. It does the same thing. So it

has--yes, it has an associated check valve corresponding to check valve 22.

Tr. at 1139.

Leshner failed to discuss the fact that the flapper valve does not keep fuel from leaving the mixing tube, which, according to TI, is part of the reservoir. However, the patent clearly states that the associated check valve 22 keeps fuel in the reservoir. Moreover, the court has already determined that, under its claim construction, the mixing tube cannot be considered part of the reservoir. Thus, as Leshner failed to discuss the purposes behind the flapper valve and check valve 22, his bald assertion is insufficient to establish equivalence. *Dawn Equip. Co. v. Kentucky Farms, Inc.*, 140 F.3d 1009, 1017 (Fed. Cir. 1998).

c. "said [pumping] means being located within the reservoir"

In its claim construction, the court construed the above disputed term to require that the "pumping means components [be] located inside the reservoir."

VDO asserts that, even assuming *arguendo* that the accused fuel pump assemblies have the claimed "pumping means," no reasonable jury could have determined that they were "located inside the reservoir." Specifically, VDO argues that, each of the components Leshner identified as part of the accused "pumping means" is plainly *outside* the reservoir, as construed by the court. The court must agree.

The jet pump of the accused assemblies is indisputably outside the reservoir because it is located at the opposite end

of the mixing tube from the flapper valve.[2] Likewise, the accused jet block, which Leshner identified as "the plastic that holds the nozzle in alignment with the mixing tube," is also clearly outside the reservoir. Additionally, with respect to the "connecting tube," Leshner testified that virtually all of the accused "connecting tube" in the VDO assemblies is outside the reservoir. *See* Tr. at 510. Indeed, Leshner's opinion that the accused "connecting tube" is inside the reservoir is based solely on his opinion that two small portions of the tube are allegedly inside the reservoir. *See id.*

The first portion of the tube at issue that TI contends is inside, is, at most "1 millimeter or 2 millimeters ... below the top portion" of the reservoir, where the tube connects to one of the outlets of the high pressure pump. The portion of the tube inside the reservoir is thus *de minimus* and cannot meet the claim limitation that the tube itself be "inside" the reservoir. The second portion is the connection to the jet nozzle, which, together with the mixing tube, make up the jet pump. As the court has already determined that the jet pump, including the jet nozzle, is not part of the reservoir, the fact that the connecting tube may enter the jet pump is irrelevant. Accordingly, there cannot be literal infringement of this claim term.[3]

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[2] Although TI offers statements from VDO's engineers which refer to the jet pump as being "inside the reservoir" and "inside the swirl pot," these statements are irrelevant for purposes of this inquiry as they were made prior to the court's claim construction.

[3] In its Answering Brief, TI asserts that, because the connecting tube is actually clipped to the outside of the can inside a groove, and the groove "juts into the interior space of the reservoir where the fuel is held," the connecting tube is also inside the reservoir. Because "inside" cannot mean "outside," which

With regard to the doctrine of equivalents, it is clear that the all-limitations rule precludes a finding of substantial equivalence between "outside" and "inside," as such a finding would vitiate the "inside" limitation. *See Moore U.S.A., Inc. v. Standard Register, Co.*, 229 F.3d 1091 (fed. Cir. 2000), *cert. denied*, 532 U.S. 1008, 121 S. Ct. 1734, 149 L. Ed. 2d 659 (2001) (stating that, "minority" could not be the substantial equivalent of "majority," because if that were the case, a claim limitation requiring a "majority" would "hardly be necessary."). Thus, the court concludes, as a matter of law, that no reasonably jury could have found infringement of this term under the doctrine of equivalents.

d. "opening for connecting the interior of the reservoir to the interior of the fuel tank ..."

The court construed this limitation to mean "an aperture disposed adjacent to both the interior of the reservoir and the interior of the fuel tank, allowing fuel to be entrained directly into the reservoir."

At trial, TI pointed to the inlet of the mixing tube as the claimed "opening." *See* Tr. at 374, 1172. However, this inlet is not "adjacent to the interior of the reservoir." Rather, fuel entering the accused "opening" must travel through the mixing tube before entering the reservoir. Indeed, Leshner himself admitted that, if the reservoir starts at the flapper valve, then the inlet to the mixing tube is not adjacent to the interior of the reservoir. *See id.* at 1171. Because under the court's claim construction, the reservoir must start at the flapper valve, there can be no literal infringement.

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includes being clipped to the outside, the court finds this argument untenable.

Furthermore, for the reasons the court discussed in Section III.A.1.c., *supra,* there can be no infringement under the doctrine of equivalents. Claim 2 explicitly requires that the "opening" of the claim "connect[] the interior of the reservoir to the interior of the fuel tank." Thus, equating the inlet identified by TI with the "opening" of Claim 2 would impermissibly vitiate the limitation.

e. "causing fuel to be entrained through the opening into the interior of the reservoir ..."

The court has construed Claim 2 to mean that the "pumping means" cause fuel to be "drawn through the opening into the interior of the reservoir."

VDO argues that, because of the structural differences between the "pumping means" of Claim 2 and the jet pump of the accused fuel pump assemblies, fuel is pushed from the jet pump's mixing tube into the reservoir in the accused fuel pump assemblies. It is not entrained, or drawn, as required by the '714 patent and the court's claim construction. TI does not dispute that fuel is not entrained into the reservoir. Rather, Leshner testified that fuel is entrained into the mixing tube. *See id.* at 1140. Moreover, the court has construed "opening" to require entrainment directly into the interior of the reservoir. Thus, because the reservoir, as a matter of law, cannot include the mixing tube of the accused assemblies, no reasonable jury could find that fuel is "entrained through the opening into the interior of the reservoir," let alone directly into the interior of the reservoir.

Furthermore, as with the "inside the reservoir" limitation, the accused "pumping means" cannot be equivalent to the "pumping means" of Claim 2, without vitiating the

requirement that the fuel be entrained directly into the interior of the reservoir. Accordingly, there can be no infringement under the doctrine of equivalents.

f. "means for routing a first portion of the output of high pressure fuel to the supply port and a second portion of the output of high pressure fuel to the pumping means ..."

The court construed the "means for routing" limitation as a means-plus-function limitation pursuant to 35 U.S.C. § 112, ¶ 6. According to the court's claim construction, the recited function in the "means for routing ..." limitation is to "route a first portion of the output of high pressure fuel to the supply port and a second portion of the output of high pressure fuel to the pumping means." Additionally, the court held that the corresponding structure in the patent specification comprises "main housing 140, check valve 38, supply nozzle 134 and the associated structure leading to jet pump 30."

VDO maintains that its fuel pump assemblies do not perform the recited function of the "means for routing" limitation. It further asserts that is assemblies do not have a main housing 140 and check valve 38, which route two portions of a single output of high pressure fuel to two separate locations. Instead, VDO argues that the high pressure pump of its accused fuel pump assemblies has two separate outputs, and thus does not need a "means for routing." TI responds that the accused fuel pump assemblies have a single output of high pressure fuel inside the high pressure pump, somewhere between the bottom of the high pressure pump and the top of the high pressure pump. TI additionally argues that the plastic cap at the top of the pump is the main housing 140, which then separates a single output.

TI's position relies on dissecting a single component, namely the high pressure pump, into separate components to satisfy other claim limitations. According to its reading of Claim 2, the interior of the high pressure pump is also the output of the high pressure pump, and the top of the high pressure pump is the main housing 140. However, this argument must fail for two reasons. It must first fail because a "high pressure pump having ... an output" is specifically recited in subpart (e) of Claim 2, and the "means for routing ..." is a distinct structure recited in subpart (f). VDO's assemblies do not have these separate structures. Second, according to TI's understanding, any supply-side fuel pump assembly necessarily has the claimed means for routing because it would have a high pressure pump which simultaneously pumps fuel to the engine and to a jet pump. Based on TI's interpretation, the "means for routing ..." limitation would be rendered redundant and superfluous. This would be in direct contravention to the Federal Circuit authority that, "all the limitations of a claim must be considered meaningful." *Unique Concepts, Inc. v. Brown,* 939 F.2d 1558, 1562 (Fed. Cir. 1991).

The court also notes that TI's arguments are effectively an end-run around the court's rejection of TI's position at the *Markman* hearing that the "means for routing" is broad enough to include any "lines, tubes or hoses that permit fuel flow as described." It is clear that the VDO assemblies simply have a high pressure pump with two outputs, which respectively lead to, in TI's words, two separate "line, tubes or hoses." Applying the court's claim construction to this term then, it is clear that no literal infringement exists.

With regard to infringement under the doctrine of equivalence, TI has presented no evidence that any structure of the accused fuel pump assemblies is equivalent to the

specific structural and functional limitations of the "means for routing" limitation. Moreover, there can be no equivalence as such a finding would vitiate the entire "means for routing ..." limitation.[4]

2. Dependent Claim 7: "baffle"

Claim 7 depends from Claim 2. In its entirety, Claim 7 reads: "the apparatus of claim 2 wherein the outlet from the pumping means is separated from the inlet to the high pressure pump by a baffle." The court construed the disputed term "baffle" to mean a "structure for isolating fuel leaving the pumping means from the region of the inlet to the high pressure pump."

In TI's case-in-chief, Leshner's testimony with respect to Claim 7 consisted solely of identifying five different structures, each of which he simply argued "deflected" fuel.[5] TI's rebuttal case focused on only one of the structures originally identified by Leshner, namely the ring at the bottom of the high pressure pump. However, the inlet ring is located above where fuel enters the reservoir in the accused assemblies and above where the fuel enters the high pressure pump. The ring's purpose is to connect the filter to the inlet of the high pressure pump. *See* Tr. at 1158. Indeed, Leshner

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[4] VDO argues that, notwithstanding the lack of evidence on the doctrine of equivalents, TI is precluded from arguing the doctrine of equivalents due to prosecution history estoppel. However, as the court has concluded that there is no equivalents, it need not reach this issue.

[5] To avoid possible juror confusion, the court instructed the jury that "deflecting is not the same as isolating." Jury Instructions, § 3.1.1, ¶ 7.

testified that the filter is where the fuel enters the high pressure pump. *See id.* at 1159. Because the fuel enters through the filter, and the ring is above the filter, the ring cannot possibly isolate fuel.

For essentially the same reasons that there is no literal infringement, there can be no infringement under the doctrine of equivalents. There is simply no structure in the accused fuel pump assemblies that isolates turbulent fuel from the inlet to the high pressure pump.[6] Because the accused fuel pump assemblies entrain fuel outside of the reservoir, there is no need to worry about turbulence at the region of the inlet to the high pressure fuel pump. Thus, there is no structure, because none is needed, that performs the function of the baffle in Claim 7.

3. Dependant Claim 8: "opening at the bottom of the reservoir."

Claim 8 also depends from Claim 2. In relevant part, Claim 8 requires that the "opening is located at the bottom of the reservoir." The court construed this limitation to mean that "the opening [of Claim 2] is formed in the bottom surface of the reservoir." Thus, not only must the "opening" of Claim 8 be an "aperture connecting the interior of the

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[6] The '714 patent explicitly recites the function of the baffle: "as shown in FIG. 9, jet block 144 includes baffles 172 whereby the fuel leaving the jet pump is isolated from the region of the opening 154 which receives inlet 42 to high pressure pump 26 ... the inlet to the high pressure pump sits in a relatively calm pool of fuel and is uneffected by the turbulence and, in some cases, frothing which results from the operation of the jet pump when entraining air."

reservoir to the interior of the fuel tank," it must also be "formed in the bottom surface of the reservoir."

As the court discussed above in Section III.A.1., the accused fuel pump assemblies do not have an "aperture connecting the interior of the reservoir to the interior of the fuel tank." Because the accused fuel pump assemblies do not have this "opening," it follows that the accused assemblies do not have an "opening that is "located in the bottom of the reservoir." Furthermore, the inlet to the mixing tube, which TI contends is the "opening" of Claim 2, is clearly not "formed in the bottom surface of the reservoir." Rather, it is formed in the wall of a structure, *i.e,* the mixing tube, which is located outside of the reservoir.

Finally, there can be no equivalence with respect to Claim 8 for all the reasons that there can be no equivalence with respect to the "opening" limitation of Claim 2. If there is no "opening," it cannot be in the bottom surface of the reservoir.

Accordingly, because the court has found that no reasonable jury could have found literal infringement, or infringement under the doctrine of equivalents, it will grant VDO's renewed motion for judgment notwithstanding the verdict.[7]

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[7] VDO also contends that, in the event that the court concludes that a reasonable jury could have found infringement, the court should also find that: (1) the patent was invalid for obviousness, (2) the infringement was not willful, and (3) VDO had a license to produce the accused Saturn LS-18 fuel pump assemblies. However, as the court has determined that VDO's accused fuel pump assemblies did not infringe the '714 patent, the court need not address these issues.

B. TI's Post-Trial Motions

TI's post-trial motions are all premised on the jury's verdict being upheld. However, because the court has concluded that the jury's infringement verdict was incorrect as a matter of law, these motions are now rendered moot. Accordingly, the court will not address them.

V. CONCLUSION

Applying the court's claim construction order, no reasonable jury could have found that VDO's accused assemblies literally infringed the '714 patent, nor could a reasonable jury have found infringement under the doctrine of equivalents. The court will issue an order in conjunction with this opinion.

APPENDIX E

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

C.A. No. 00-432-GMS

[Decided June 12, 2002]

TI GROUP AUTOMOTIVE SYSTEMS, (USA), L.L.C.,
Plaintiff,

v.

VDO NORTH AMERICA L.L.C., MANNESMANN VDO AG, SIEMENS VDO AUTOMOTIVE CORP., and SIEMENS VDO AUTOMOTIVE AG,
Defendants.

VERDICT FORM

We, the jury, unanimously find as follows:

U.S. Patent No. 4,860,714 ("the '714 Patent")

Claim 2

Infringement

1. Has TI Group proven by a preponderance of the evidence that VDO's accused products literally have "an opening for connecting the interior of the reservoir to the interior of the fuel tank" as recited in Claim 2 of the '714 patent and construed by the court?

   Yes __X__(For TI Group) No ___(For VDO)

2. Has TI Group proven by preponderance of the evidence that VDO's accused products have a structure equivalent to and insubstantially different from "an opening for connecting the interior of the reservoir to the interior of the fuel tank" as recited in Claim 2 of the '714 Patent and construed by the court?

   Yes __X__(For TI Group) No ___(For VDO)

3. Has TI Group proven by a preponderance of the evidence that in VDO's accused products, there is a feature literally "causing fuel to be entrained through the opening into the interior of the reservoir" as recited in Claim 2 of the '714 Patent and construed by the court?

   Yes __X__(For TI Group) No ___(For VDO)

4. Has TI Group proven by a preponderance of the evidence that VDO's accused products have a feature equivalent to

and insubstantially different from "causing fuel to be entrained through the opening into the interior of the reservoir" as recited in Claim 2 of the '714 Patent and construed by the court?

Yes __X__(For TI Group) No ___(For VDO)

5. Has TI Group proven by a preponderance of the evidence that VDO's accused products literally have a "pumping means for pumping fuel into the reservoir" as recited in Claim 2 of the '714 Patent and construed by the court?

Yes __X__(For TI Group) No ___(For VDO)

6. Has TI Group proven by a preponderance of the evidence that VDO's accused products have a structure equivalent to and insubstantially different from the "pumping means for pumping fuel into the reservoir" as recited in Claim 2 of the '714 Patent and construed by the court?

Yes __X__(For TI Group) No ___(For VDO)

7. Has TI Group proven by a preponderance of the evidence that VDO's accused products literally have a "pumping means located within the reservoir" as recited in Claim 2 of the '714 Patent and construed by the court?

Yes __X__(For TI Group) No ___(For VDO)

8. Has TI Group proven by a preponderance of the evidence that VDO's accused products have a "pumping means" in a location equivalent to or insubstantially different from being "located within the reservoir" as recited in Claim 2 of the '714 Patent and construed by the court?

Yes __X__(For TI Group) No ___(For VDO)

9. Has TI Group proven by a preponderance of the evidence that VDO's accused products literally have a "means for routing a first portion of the output of high pressure fuel to the supply port and a second portion of the output of high pressure fuel to the pumping means" as recited in Claim 2 of the '714 Patent and construed by the court?

Yes __X__(For TI Group) No ___(For VDO)

10. Has TI Group proven by a preponderance of the evidence that VDO's accused products have a structure equivalent to and insubstantially different from the "means for routing a first portion of the output of high pressure fuel to the supply port and second portion of the output of high pressure fuel to the pumping means" as recited in Claim 2 of the '714 patent and construed by the court?

Yes __X__(For TI Group) No ___(For VDO)

11. Has TI Group proven by a preponderance of the evidence that VDO's accused products literally infringe Claim 2 of the '714 Patent? If, and only if, you have answered "Yes" in response to Questions 1, 3, 5, 7 and 9, you must enter "Yes" below. If you

have answered "No" to one or more of Questions 1, 3, 5, 7, or 9, you must enter "No" below.

Yes __X__(For TI Group) No ___(For VDO)

12. Has TI Group proven by a preponderance of the evidence that VDO's accused products infringe Claim 2 of the '714 Patent under the doctrine of equivalents? If, and only if, you have entered "Yes" to either Questions 1 or 2, "Yes" to Questions 3 or 4, "Yes" to either Questions 5 or 6, "Yes" to either Questions 7 or 8, and "Yes" to either Questions 9 or 10, you must enter "Yes" below. Otherwise, you must enter "No" below.

Yes __X__(For TI Group) No ___(For VDO)

Invalidity

13. Has VDO proven by a clear and convincing evidence that Claim 2 of the '714 Patent is invalid for obviousness?

Yes ___(For VDO) No __X__(For TI Group)

14. If you answered "Yes" to the above question, please write an "X" on the appropriate line below, indicating the prior art references that you relied on in finding obviousness.

Prior Art References: **Claim 2**

A. U.S. Patent No. 2,953,156, filed August 28, 1957, and issued on September 20, 1960 _____

B. German Patent Application
DE 28 49 461 A1, filed
November 15, 1978 and
published on May 29, 1980 _____

15. If you answered "No" to both Questions 11 and 12 or "Yes" to Question 13, sign this verdict form, and advise the Marshal that you have reached a verdict. If you answered "Yes" to either Question 11 or 12 and "No" to Question 13, continue with the next question.

Claim 7

Infringement

16. Has TI Group proven by a preponderance of the evidence that VDO's accused products literally have a "baffle" as recited in Claim 7 of the '714 Patent and construed by the court?

Yes __X__(For TI Group) No ___(For VDO)

17. Has TI Group proven by a preponderance of the evidence that VDO's accused products have a structure equivalent to and insubstantially different from the "baffle" as recited in Claim 7 of the '714 Patent and construed by the court?

Yes __X__(For TI Group) No ___(For VDO)

18. Has TI Group proven by a preponderance of the evidence that VDO's accused products literally infringe Claim 7 of the '714 Patent? Enter "Yes" if, and only if, you entered "Yes" in response to Questions 11 and 16 ; otherwise, enter "No."

Yes __X__(For TI Group) No ___(For VDO)

19. Has TI Group proven by a preponderance of the evidence that VDO's accused products infringe Claim 7 of the '714 Patent under the doctrine of equivalents? Enter "Yes" if, and only if, you entered "Yes" to either Questions 11 or 12 and "Yes" to either Questions 16 or 17; otherwise enter "No."

Yes __X__(For TI Group) No ___(For VDO)

Invalidity

20. Has VDO proven by clear and convincing evidence that Claim 7 of the '714 Patent is invalid for obviousness?

Yes ___(For VDO) No __X__(For TI Group)

21. If you answered "Yes" to the above question, please write an "X" on the appropriate line below, indicating the prior art references that you relied on in finding obviousness.

Prior Art References: **Claim 7**

A. U.S. Patent No. 2,953,156, filed August 28, 1957, and issued on September 20, 1960 _____

B. German Patent Application DE 28 49 461 A1, filed November 15, 1978 and published on May 29, 1980 _____

Claim 8

Infringement

22. Has TI Group proven by a preponderance of the evidence that VDO's accused products literally have an "opening" and further, that the "opening" is literally "located in the bottom of the reservoir" as recited in Claim 8 of the '714 Patent and construed by the court?

Yes __X__(For TI Group) No ___(For VDO)

23. Has TI Group proven by a preponderance of the evidence that VDO's accused products have an "opening" and further, that the responsive structure is equivalent to and insubstantially different from an "opening" that is "located in the bottom of the reservoir" as recited in Claim 8 of the '714 Patent and construed by the court?

Yes __X__(For TI Group) No ___(For VDO)

24. Has TI Group proven by a preponderance of the evidence that VDO's accused products literally infringe Claim 8 of the '714 Patent? Enter Yes" if, and only if, you entered "Yes" in response to Questions 11 and 22above; otherwise, enter "No."

Yes __X__(For TI Group) No ___(For VDO)

25. Has TI Group proven by a preponderance of the evidence that VDO's accused products infringe Claim 8 of the '714 Patent under the doctrine of equivalents? Enter "Yes" if, and only if, you entered "Yes" to either Questions 11 or 12 and "Yes" to either Questions 22 or 23; otherwise enter "No."

Yes __X__(For TI Group) No ___(For VDO)

Invalidity

26. Has VDO proven by clear and convincing evidence that Claim 8 of the '714 Patent is invalid for obviousness?

Yes ___(For VDO) No __X__(For TI Group)

27. If you answered "Yes" to the above question, please write an "X" on the appropriate line below, indicating the prior art references that you relied on in finding obviousness.

Prior Art References: **Claim 8**

A. U.S. Patent No. 2,953,156, filed August 28, 1957, and issued on September 20, 1960 _____

B. German Patent Application DE 28 49 461 A1, filed November 15, 1978 and published on May 29, 1980 _____

* * *

31. If you found Claim 2 infringed and that the patent is not valid, that is, you answered "Yes" to Question 11 or 12, and you answered "No" to Question 13, please write an "X" on the line below:

X

32. If you found Claim 7 infringed and that the patent is not invalid, that is, you answered "Yes" to Question 18 or 19 and you answered "No" to Question 20, please write an "X" on the line below"

X

If you found Claim 8 infringed and that the patent is not invalid, that is, you answered "Yes" to Question 24 or 25, and you answered "No" to Question 26, please write an "X" on the line below.

X

32. If you **did** write an "X" on any of the above lines, please go on to Question 33.

33. **Damages - Lost Profits**

TI Group is not seeking lost profits with respect to VDO's sales of the accused fuel pump assemblies for

the Truck platform. With respect to the other two platforms at issues, the Saturn LS-18 and the Small Car platforms, please answer the following questions regarding TI Group's lost profit claims.

Saturn LS-18 Platform

34. Has VDO proven by a preponderance of the evidence that it had a license to manufacture, use, sell and offer for sale the accused fuel pump assemblies for the Saturn LS-18 platform?

Yes ___(For VDO) No _X_(For TI Group)

If you answered yes to Question 34, skip Question 35 and go to Question 36.

35. This question has two parts:

(a) Has TI Group proven by a preponderance of the evidence that it is entitled to lost profits damages with respect to VDO's sales of the accused fuel pump assemblies for the Saturn LS-18 platform?

Yes ___(For TI Group) No _X_(For VDO)

(b) What amount of damages do yo find TI Group has proven by a preponderance of the evidence with respect to the Saturn LS-18 platform?

$ 144,188.00

3% Reasonable Royalty TI Group Dx227-14 4 Original Equipment Sales 1999-2004 + $500,000 for yrs 2005 + 2006

Small Car Platform

36. This question has two parts:

(a) Has TI Group proven by a preponderance of the evidence that it is entitled to lost profits damages with respect to VDO's sales of the accused fuel pump assemblies for the Small Car platform?

Yes ___(For TI Group) No _X_(For VDO)

(b) What amount of damages do you find TI Group has proven by a preponderance of the evidence with respect to the Small Car platform?

$_7,842,802_ 5% Reasonable Royalty VDO's Small Car Table 2 of Defendants Expert Report Book

Damages - Reasonable Royalty on the Truck Platform

37. With regard to the Truck platform, what amount of damages in the form of a reasonable royalty do you find that TI Group has proven by a preponderance of the evidence?

(a) Royalty Rate: _3.0_% of original Equipment Sales 1999-2006 VDO's Table 3 from Defendants Expert Report Book

(b) Total Amount: $2,786,502.00

Willful Infringement

38. Has TI Group proven by clear and convincing evidence that VDO willfully infringed the '714 Patent?

Yes __X__(For TI Group) No ___(For VDO)

Total Damages $10,773,492

You must each sign this verdict form:

Dated: 6/12/02 /s/_____
Foreperson

/s/_____
/s/_____
/s/_____
/s/_____
/s/_____
/s/_____
/s/_____

APPENDIX F

IN THE
UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Nos. 02-1630, 03-1482

[Filed July 13, 2004]

TI GROUP AUTOMOTIVE SYSTEMS (NORTH AMERICA), INC. (now known as TI Group Automotive Systems, L.L.C.) Plaintiff-Appellant,	)
v.	)
VDO NORTH AMERICA, L.L.C., MANNESMANN VDO AG, SIEMENS VDO AUTOMOTIVE CORP., and SIEMENS VDO AUTOMOTIVE AG, Defendants-Cross Appellants.	)

Appeals from the United States District Court
For the District of Delaware
Civil Action No. 97-CV-699 (GMS)
Judge Gregory M. Sleet

PLAINTIFF-APPELLANT'S COMBINED PETITION FOR REHEARING EN BANC AND MOTION FOR NEW TRIAL

CERTIFICATE OF INTEREST

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

TI Group Automotive

v.

VDO, N.A.

Appeal No. 02-1630, 03-1482

Counsel for the Plaintiff-Appellant TI Group Automotive Systems, L.L.C. certifies the following:

1. The full name of every party or amicus represented by me is: **TI GROUP AUTOMOTIVE SYSTEMS (NORTH AMERICA), INC. (now known as TI Group Automotive Systems, L.L.C.).**

2. The name of the real party in interest (if the party named in the caption is not the real party of interest) represented by me is: **Not Applicable.**

3. The parent companies, subsidiaries (except wholly-owned subsidiaries), and affiliates that have issued shares to the public, of the party or amicus curiae represented by me are: **TI Automotive Ltd., an English private limited company.**

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are: **WILLIAM J. SCHRAMM, MATTHEW J. SCHMIDT, ANDREW M. GROVE, WILLIAM H. FRANCIS, Reising, Ethington, Barnes, Kisselle, P.C., (Formerly Reising, Ethington, Barnes, Kisselle, Learman & McCulloch, P.C.) 201 West Big Beaver Road, Suite 400, Troy, MI 48084; RICHARD W. HOFFMANN, Warn, Burgess & Hoffmann PC 691 N. Squirrel Road, Ste. B-125, Auburn Hills, MI 48326; and DOUGLAS E. WHITNEY and MARY GRAHAM, Morris, Nichols, Arsht & Tunnell, PO Box 1347, 1201 N. Market Street, Wilmington, Delaware 19899.**

Dated: July 13, 2004 /s/_____

Andrew M. Grove
Counsel for Plaintiff-Appellant
TI GROUP AUTOMOTIVE SYSTEMS (NORTH AMERICA), INC. (now known as TI Group Automotive Systems, L.L.C.)

TABLE OF CONTENTS

CERTIFICATE OF INTEREST i

TABLE OF CONTENTS iii

TABLE OF AUTHORITIES iv

STATEMENT OF COUNSEL 1

I INTRODUCTION 2

II. POINTS OF LAW AND FACT OVERLOOKED OR MISAPPREHENDED BY THE PANEL OF THE COURT 2

III. THE ARGUMENT IN SUPPORT OF A PANEL REHEARING 5

A. The Panel created new fact issues even though it intended to affirm the district court's definitions of "reservoir" and "within." . . . 6

B. The Panel cannot resolve these new fact issues against TI Group on appeal 8

1. The district court prevented TI Group from presenting evidence relevant to the broader claim constructions that the Panel adopted 8

2. The Panel cannot direct judgment against TI Group because there was substantial evidence supporting the jury verdict 11

C. *Exxon* does not apply here 12

D. The Panel did not address the doctrine of equivalents issues 13

IV. THE ARGUMENT IN SUPPORT OF REHEARING EN BANC 14

TABLE OF AUTHORITIES

CASES

Electro Sci. Indus. v. Dynamic Details, Inc.,
307 F.3d 1343 (Fed. Cir. 2002) 1, 4, 10

Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.,
149 F.3d 1309 (Fed. Cir. 1998) 14

Exxon Chemical Patents, Inc., v. Lubrizol Corp.,
77 F.3d 450 (Fed. Cir. 1996) 3, 5, 12, 13, 15

Globe Liquor Co. v. San Roman,
332 U.S. 571, 92 L. Ed. 177, 68 S. Ct. 246
(1948) 1, 4, 8, 10, 15

Markman v. Westview Instruments, Inc.,
517 U.S. 370, 134 L.Ed.2d 577, 116 S. Ct. 1384
(1996) 14

Neely v. Martin K. Eby Constr. Co.,
386 U.S. 317, 18 L. Ed. 2d 75, 87 S. Ct. 1072
(1967) 1 2, 3, 4, 5, 6, 8, 10, 14, 15

PIN/NIP, Inc. v. Platte Chemical Co.,
304 F.3d 1235 (Fed. Cir. 2002) 1, 3, 4, 6

Reeves v. Sanderson Plumbing Products, Inc.,
530 U.S. 133, 147 L. Ed. 2d 105, 120 S. Ct. 2097
(2000) 4, 11

Warner-Jenkinson Co. v. Hilton Davis Chemical,
20 U.S. 17, 137 L. Ed. 2d 146, 117 S. Ct. 1040
(1997) 14

Weade v. Dichmann, Wright & Pugh, Inc.,
337 U.S. 801, 93 L. Ed. 1704, 69 S. Ct. 1326
(1949) 1, 3, 6, 14

STATEMENT OF COUNSEL

Based on my professional judgment, I believe the panel decision is contrary to the following decisions of the Supreme Court of the United States and the precedents of this Court:

Globe Liquor Co. v. San Roman, 332 U.S. 571, 573-574 (1948)

Neely v. Martin K. Eby Constr. Co., 386 U.S. 317, 325-330 (1967)

Weade v. Dichmann, Wright & Pugh, Inc., 337 U.S. 801, 808-809 (1949)

PIN/NIP, Inc. v. Platte Chemical Co., 304 F.3d 1235, 1344 (Fed. Cir. 2002)

Electro Sci. Indus. v. Dynamic Details, Inc., 307 F.3d 1343, (Fed. Cir. 2002)

Based on my professional judgment, I believe this appeal requires an answer to one or more precedent-setting questions of exceptional importance:

Whether a patentee has a Seventh Amendment right to prove its infringement case to a jury in a new trial after the Federal Circuit substantially broadens its patent claim on appeal, especially where the trial court prevented the patentee from introducing evidence relevant to the broader claim? TI Group answers this question: "YES."

Dated: July 13, 2004

/s/ _____

Andrew M. Grove
Counsel for Plaintiff-Appellant
TI GROUP

I. INTRODUCTION

TI Group asks the Court for a new trial on the infringement issues. TI has a Seventh Amendment right to prove its case to a jury with the broad new claim constructions ordered by the Panel. TI Group did not have this chance in the first trial because the district court used claim constructions that were "erroneously narrowly construed" (Op. at 20), especially on the precise fact issue where the Panel decided infringement -- whether the VDO pumping means is inboard the VDO opening. (Op. at 19). Moreover, the district court prevented TI Group from presenting evidence relating to the broader claim constructions.

TI Group also asks the Panel to correct an obvious error regarding the functionit stated for the term, "routing means" (Op. at 15). The correct function is stated in the district court's Amended Order at A00007. This was not in dispute.

It is also unclear whether the Panel adopted the supplemental definition of "reservoir" used by the district court. (A000014)("Reservoir 'does not include all things that can house fuel.'")

II. POINTS OF LAW AND FACT OVERLOOKED OR MISAPPREHENDED BY THE PANEL OF THE COURT

A. An appellate court cannot order judgment against the winner in a jury trial where the decision on appeal creates new trial issues that have not been resolved by the trial court. *Neely v. Martin K. Eby Construction Co.*, 386 U.S. 317, 325 (1967)("...an appellate court may not order judgment *n.o.v.* where ... the record reveals a new trial issue which has not

been resolved."); *Weade v. Dichmann, Wright, & Pugh*, 337 U.S. 801, 809 (1949). The dissent cited and quoted *Nealy and Weade* in *Exxon Chemical Patents, Inc., v. Lubrizol Corp.*, 77 F.3d 450, 456-457 (Fed. Cir. 1996). See also *PIN/NIP, Inc. v. Platte Chemical Co.*, 304 F.3d 1235, 1246 (Fed. Cir. 2002)("[Patentee] Platte should have an opportunity to prove its infringement case under that [new] claim construction.").

The Panel here broadened critical claim constructions at the precise fact issue where the Panel decided infringement -- whether the VDO pumping means is inboard the VDO opening. (Op. at 19)("...the pumping means must be inboard the opening."). The Panel broadened "pumping means" and "opening," and so it created new fact issues on infringement. Despite this, the Panel apparently determined that there were no new infringement issues since it affirmed the district court definitions for "reservoir" and "within." (Op. at 18). But this is mistaken because the Panel's own infringement analysis on Page 19 had to consider the now-broader terms, "opening" and "pumping means," and not just "reservoir" and "within." By analyzing whether the VDO pumping means was "inboard of the opening," the Panel recognized that the "reservoir" boundary includes the "opening" because the "opening" in question is the opening of the reservoir. See Claim 2. (A000062) Thus, by changing "opening," the Panel implicitly changed "reservoir" and the factual analysis of whether the VDO pumping means is within the VDO "reservoir." TI has a right to prove its infringement case to a jury with these new claim constructions. The Panel remanded the validity issues because it broadened the claims. Op. at 20. It should also remand the infringement issues.

B. An appellate court cannot order judgment against the winner in a jury trial where the district court erroneously excluded relevant evidence at trial. *Neely v. Martin K. Eby*

Construction Co., 386 U.S. at 327 ("Erroneous exclusion of evidence" is an "important consideration that may entitle him [the jury verdict winner] to a new trial."); *Globe Liquor Co., Inc. v. San Roman*, 332 U.S. 571, 573-574 (1948)(Circuit court cannot direct a verdict when there are questions about whether evidence was admitted, and what its effect might have been.).

Here, the district court erroneously prevented TI Group from introducing evidence that would have supported infringement under the broader claim terms.

C. The Federal Circuit is not equipped or empowered to decide new fact issues not addressed in the district court. *Electro Scientific Industries v. Dynamic Details*, 307 F.3d 1343, 1350 (Fed. Cir. 2002); *PIN/NIP, Inc. v. Platte Chemical Co.*, 304 F.3d 1235, 1246 (Fed. Cir. 2002). Nor is a panel permitted to ignore a jury verdict and decide a jury issue anew. *Reeves v. Sanderson Plumbing Products, Inc.*, 530 U.S. 133, 150-153 (2000).

Here, the Panel applied the new, broader claim terms to an incomplete record and determined factual infringement issues against the verdict winner without deferring to the specific jury findings, and without analyzing whether the evidence could have supported a jury verdict with the broader claim terms.

D. The *Exxon* case relied on by the Panel does not permit the Panel to direct judgment against the verdict winner TI Group. *Exxon Chemical Patents, Inc., v. Lubrizol Corp.*, 64 F.3d 1553, 1560 (Fed. Cir. 1995). Unlike in *Exxon*, the Panel here made the patent claim broader; and this created new fact issues not decided by the jury. Moreover, unlike in *Exxon*, the

district court erroneously prevented TI Group from presenting evidence on the broader claim.

III. THE ARGUMENT IN SUPPORT OF A PANEL REHEARING

TI Group asks the Panel to remand the infringement issues to the district court for a new trial. A request for new trial in a petition for rehearing is authorized by *Neely v. Martin K. Eby Construction Co.*, 386 U.S. at 327-329.

As explained below, a new trial is compelled for several reasons. First, the Panel broadened the claim terms on appeal and this created new infringement issues. The Panel cannot resolve the new issues against TI Group on appeal because the record is not complete. The district court prevented TI Group from presenting evidence on the broader claim interpretations that the Panel adopted. Moreover, TI Group already presented substantial evidence to support the jury finding of infringement. Finally, the Panel never addressed infringement under the doctrine of equivalents, and so this issue remains unresolved on appeal.

A. The Panel created new fact issues even though it intended to affirm the district court's definitions of "reservoir" and "within."

When new issues arise on appeal, the appellate court cannot direct a judgment against the jury verdict winner. *Neely v. Martin K. Eby Construction Co.*, 386 U.S. at 325; *Weade v. Dichmann, Wright, & Pugh*, 337 U.S. at 809. See also *PIN/NIP, Inc. v. Platte Chemical Co.*, 304 F.3d at 1246 ("[Patentee] Platte should have an opportunity to prove its infringement case under that [new] claim construction.").

Here, the Panel created new infringement issues because it broadened at least four of six claim terms, and did not make any claim term narrower. Most importantly, the Panel created new infringement issues as to whether the VDO pumping means is inboard the opening. (Op. at 19). It did so by broadening the terms, "pumping means" and "opening." Under the Panel's new and broad definition, an "opening" can be a "passage" and not merely an "aperture," as the district court found. (Op. at 17). Moreover, the Panel found that "pumping means" is just a nozzle aligned with a venturi tube, and does not include the connecting tube 164 and other structure erroneously required by the district court. (Op. at 12). Accordingly, whether the VDO pumping means is inboard the opening is a new fact issue, because the definitions for the critical terms are new.

Despite this, the Panel determined that there were no new infringement issues since it affirmed the district court definitions for "reservoir" and "within." (Op. at 18). But this is mistaken for two reasons. First, the Panel's own infringement analysis on Page 19 had to consider the terms, "opening" and "pumping means," terms that the Panel broadened on appeal. The Panel analyzed whether the VDO pumping means was inboard of the opening. In doing so, the Panel recognized that the "reservoir" boundary includes the "opening" because the "opening" in question is the opening of the reservoir. According to Claim 2, the "opening" is part of the "reservoir." (A000062). The new "opening" has a new boundary because it can be a passage and not just an aperture.

Second, the Panel seems to have adopted only part of the definition of "reservoir" used by the district court. The district court used additional limiting language in its definition of "reservoir." That language, given as a jury instruction on the meaning of reservoir, was: "the 'reservoir' does not

include all things that can house fuel." (TI Appeal Brief at 28, citing A002215). The district court believed this additional language was important to whether the VDO pumping means is inside or outside the reservoir. The district court made a special effort to add it to the jury instruction for "reservoir" after the close of evidence. And the district court cited this extra language in its JMOL decision at A000014. The Panel did not use this language as part of its definition of "reservoir," and so the Panel's definition is broader than the district court's definition.

Moreover, the Panel recognized that it created new issues when it broadened the claims because it remanded the validity issues. (Op. at 20)("Because the jury could only have compared the prior art to the erroneously narrowly construed claims...we vacate ... and remand..."). TI Group is more entitled to a remand than VDO, because TI won the jury verdict even though it faced the "erroneously narrowly construed claims" that VDO promoted, and the district court orders barring evidence that could have proven infringement with the broader claims.

Accordingly, there are new infringement issues – both literal infringement and under the doctrine of equivalents – because the critical terms "opening," "pumping means," and "reservoir" are broader now. TI Group has a Seventh Amendment right to have a jury decide these new issues.

B. The Panel cannot resolve new fact issues against TI Group on appeal.

The Panel cannot resolve the new fact issues against TI Group on appeal for two reasons. First, the record is not complete because the district court prevented TI Group from presenting relevant evidence as to the broader claim

constructions. Second, TI Group presented substantial evidence supporting the jury finding of infringement even when the claim terms were narrower.

1. The district court prevented TI Group from presenting evidence relevant to the broader claim constructions that the Panel adopted.

An appellate court cannot direct a judgment against the verdict winner in jury cases where the district court excluded relevant evidence. *Neely v. Martin K. Eby Construction Co.*, 386 U.S. at 327; *Globe Liquor Co., Inc. v. San Roman,* 332 U.S. at 573-574. Here, a remand is required because the district court specifically instructed TI Group that its witnesses could not testify in a manner inconsistent with its claim interpretations. In one instance, it told TI Group: "You need to go back and instruct your witness that – as you did initially, that he's to comport his answers to the definition provided by the Court." (A001214-1215 -- attached). Later the district court said: "I'm going to cause you and your witnesses to live with the definition that has been advanced by the Court ..." (A001234-1235 from the Joint Appendix) And the district court struck portions of testimony that it deemed inconsistent with its claim constructions. (A001215; A001244-1247)

Accordingly, TI Group never got the chance to show, for example, that the "opening" in the VDO devices could be the passage extending all the way from the flapper valve g2 to the opening b1.

See Fold Out Exhibit
Plaintiff's Exhibit 5A
Page 83a-1

Plaintiff's Exhibit 5A

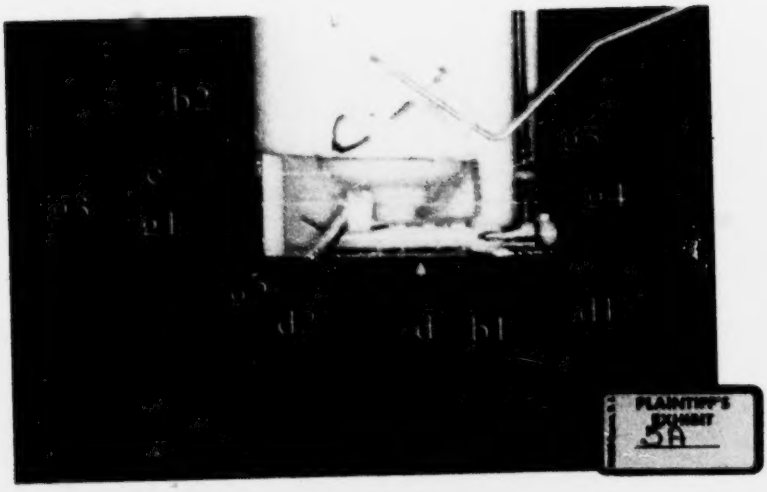
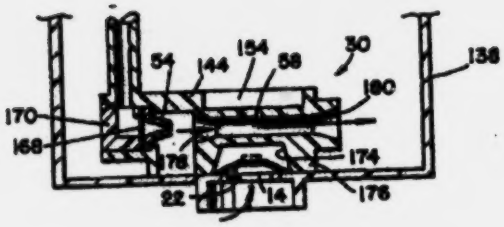


Figure 7



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(A002984) This is certainly a passage that, according to Claim 2, connects "the interior of the reservoir to the interior of the fuel tank."

TI Group likewise could have shown that the VDO pumping means is the nozzle "d1" aligned in the tube surrounding the nozzle. This could be substantial evidence that the VDO pumping means is not outboard of this opening.

VDO argues that this opening is not part of its reservoir because it does not always retain fuel. But TI Group could rebut this with Figure 7 of its '714 patent.

See Fold Out Exhibit
Figure 7
Page 83a-1

(A000055) The opening 14 is indisputably part of the reservoir 138 even though it cannot retain fuel under all circumstances. Any pumping means in an opening like this could be considered "within the reservoir" – or at least equivalent to being "within." TI Group certainly would have presented other evidence supporting literal infringement and infringement under the doctrine of equivalents – like the evidence that the district court specifically excluded.

Accordingly, the record in this case is not complete; and so it is unconstitutional for the Panel to direct judgment of non-infringement in favor of VDO. *Neely*, *Globe Liquor Co.*, *supra*. TI Group is entitled to a jury trial on the new issues. Appellate courts do not have the tools or the mandate to determine new fact issues. *Electro Scientific Industries v. Dynamic Details*, 307 F.3d at 1350.

2. The Panel cannot direct judgment against TI Group because there was substantial evidence supporting the jury verdict

Appellate review of a jury's finding of fact is limited to determining whether, after considering all of the evidence, substantial evidence supports the jury. *Reeves v. Sanderson Plumbing Products, Inc.*, 530 U.S. at 150-153.

Here, in derogation of this well-established law, the Panel did not review all of the record to see if it supported the specific jury finding that VDO's device had a pumping means inside a reservoir, both literally and by equivalents. The Panel did not even discuss the evidence that TI Group reported in its appellate brief at pages 27-35, and 37-45; and in its reply brief at 16-18. As just one example, TI Group proved that the VDO mixing tube is part of the VDO reservoir because it retains fuel "most or all of the time." See TI Group appellate brief at 30, citing A001290-1293 and A001975-1981. TI Group also showed that the VDO opening was at "b1" in Exhibit 5A above. (TI appeal brief at 43-44, citing, e.g. A001171: "B1 is the opening...") In spite of this substantial evidence, the Panel made its own contrary fact finding that the VDO pumping means is outside the VDQ reservoir. This was legal error. *Id.* The jury heard substantial evidence over several days, and specifically found that the VDO pumping means was within the VDO reservoir, or at least in an equivalent location. (A002256) The Panel cannot second-guess the jury decision even if the Panel disagrees with it. *Id.* at 153. Accordingly, the Panel could not direct judgment in favor of VDO.

C. *Exxon* does not apply here.

The Panel cites *Exxon* for the proposition that it can decide the infringement issues on appeal where the record shows no genuine issue of material fact. But *Exxon* is not on point or controlling for several reasons.

First, in *Exxon*, the Federal Circuit did not make the claim broader on appeal. It adopted a narrower construction similar to the one urged by the accused infringer. But here in the present case, the Panel actually broadened the claim at the very fact issue where the Panel decided infringement.

Second, in *Exxon* the patentee was not only permitted, but obligated to present evidence that would prove infringement under either its claim constructions or the accused infringer's constructions. Thus, all infringement evidence either was presented, or should have been presented. In contrast, in the present case, the district court adopted VDO's claim constructions well before trial, and prevented TI Group from presenting evidence that might have supported infringement under this Panel's broader claim interpretations. The district court even struck from the record some evidence that supported TI Group's position that the VDO reservoir includes the VDO pumping means. (A001215; A001244-1247)

Third, the *Exxon* court did not override any specific jury findings. It simply noted that Exxon failed to present any evidence at all on a critical point. Here, the district court and the Panel both erroneously overrode the specific findings by the jury that VDO's pumping means was within VDO's reservoir. (A002256) These findings are supported by substantial evidence, as reported in TI's appellate briefs. And in *Exxon*, the panel actually considered the trial evidence. In

this case, the Panel did not mention, and apparently did not consider, any of the trial evidence that supports a finding of infringement under the broader claim interpretations.

This case is therefore an unwarranted extension of *Exxon* that violates the Seventh Amendment. Rather than directing a judgment against the jury verdict winner TI Group, the Panel should remand the infringement issues to the district court – or reinstate the jury verdict of infringement.

D. The Panel did not address the doctrine of equivalents issues.

TI Group obtained a jury verdict on this issue. And the Panel destroyed the basis for the district court's JMOL decision when it broadened the claim terms "opening," "pumping means," and "reservoir." This issue is not resolved on appeal; and so it should be remanded to the district court for further proceedings.

VDO will argue that "inside" can never mean "outside," and so there is no equivalents infringement. But this "inside-outside" argument is meritless now that the critical claim terms are broader. And in any case, the "inside-outside" argument does not rise to a legally-sufficient defense. It represents an improper shortcut to a doctrine of equivalents analysis, one that virtually eliminates the doctrine of equivalents – something the Federal Circuit and the Supreme Court stand against. *Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 149 F.3d 1309, 1317 (Fed. Cir. 1998); *Warner-Jenkinson Co. v. Hilton Davis Chemical*, 20 U.S. 17, 40-41 (1997)("Today we adhere to the doctrine of equivalents.").

IV. THE ARGUMENT IN SUPPORT OF REHEARING EN BANC

This case presents a precedent-setting question of exceptional importance to patent jury cases in the *Markman* era: Whether a patentee has a Seventh Amendment right to prove its infringement case to a jury in a new trial after the Federal Circuit substantially broadens its patent claim on appeal, especially where the trial court prevented the patentee from introducing evidence relevant to the broader claim? TI Group answers this question: "YES."

Accordingly, TI Group asks the Court to overrule the three-judge Panel and order a new trial on the infringement issues for the reasons summarized below. These reasons are supported and explained in greater detail in Section II above.

A. Because of the Seventh Amendment, an appellate court cannot override a jury infringement verdict and order judgment for the infringer where there are new issues that have not been tried and resolved. *Neely v. Martin K. Eby Construction Co.,* 386 U.S. at 325; *Weade v. Dichmann, Wright, & Pugh,* 337 U.S. at 809.

The Panel here broadened critical patent claim interpretations at the precise fact issue where the Panel decided infringement. This created new fact issues of literal infringement and infringement under the doctrine of equivalents that cannot be resolved on appeal against the jury verdict winner TI Group.

B. An appellate court cannot order judgment against the winner in a jury trial where the district court excluded relevant evidence from trial. *Neely v. Martin K. Eby Construction Co.,* 386 U.S. at 327; *Globe Liquor Co., Inc. v.*

San Roman, 332 U.S. at 573-574. Here, the district court erroneously prevented TI Group from introducing evidence that would have supported infringement under the broader claim terms ordered by the Panel.

C. The *Exxon* case relied on by the Panel does not permit the Panel to direct judgment against the jury verdict winner TI Group. Unlike in *Exxon*, the Panel here made the patent claim broader; and this created new fact issues not decided by the jury. Moreover, unlike in *Exxon*, the district court erroneously prevented TI Group from presenting evidence on the broader claim. The Panel decision thus represents an unwarranted extension of *Exxon,* and a violation of TI Group's Seventh Amendment right to a jury trial.

Respectfully submitted,

By: /s/_____

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Date: July 13, 2004

CERTIFICATE OF SERVICE

I hereby certify that two (2) true and accurate copies of the foregoing COMBINED PETITION FOR REHEARING AND REHEARING IN BANC AND MOTION FOR NEW TRIAL have been served by Federal Express overnight delivery on the following counsel this 13 July 2004.

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ADDENDUM IN ACCORDANCE WITH FEDERAL CIRCUIT RULE 35(c)(3)

(Federal Circuit Opinion of June 30, 2004
omitted for purposes of this appendix; see App. 3a-26a)

Transcript Excerpts

Leshner - direct

[p. 417]

MR. SCHRAMM: Would you go back, please, to putting the claim construction chart up on the screen? And you can remove the other figures.

BY MR. SCHRAMM:

Q. Subsection (4) of that claim construction chart said means, and there is a pumping means located within the reservoir means that the pumping means components are located inside the reservoir.

Does that feature -- is that feature within Plaintiff's Exhibit 120?

A. Yes, it is.

Q. Would you explain that, please?

A. Well, this is an unified, unitary assembly, where the pumping means, meaning the jet pump, is molded right into the housing, the can. And I know, I heard Mr. Lobenfeld say in his opening that their pumping means is not inside the

reservoir, that it's outside the reservoir. I think when you look at it, when I look at it --

MR. WINTRINGHAM: Your Honor, can we have a sidebar?

THE COURT: Yes.

- - -

(Sidebar conference, out of the hearing of the jury, as follows.)

THE COURT: Mr. Schramm is doing exactly what [p.418] Mr. Wintringham was concerned he might do. He's essentially testifying contrary to the Court's definition.

MR. SCHRAMM: I thought --

THE COURT: You need to go back and instruct your witness that -- as you did initially, that he's to comport his answers to the definition provided by the Court.

MR. SCHRAMM: Yes, sir.

THE COURT: And I'd like you to do that in front of the jury.

MR. SCHRAMM: I will do that.

(End of sidebar conference.)

THE COURT: Members of the jury, you will disregard the last answer.

BY MR. SCHRAMM:

Q. Going back to Subsection (4), please respond to my question, taking into account specifically the Court's interpretation that we have for that Subsection (4), as well as Subsection (3).

A. Okay. Well, when we say pumping means components are located inside the reservoir, and I think we have to look to the Court's definition of fuel reservoir that we looked at earlier, fuel reservoir includes all of those parts that carry the fuel. And when I look at this assembly, I see that the pumping means or the jet pump

* * *